

# RECIPROCITY

KIRWAN



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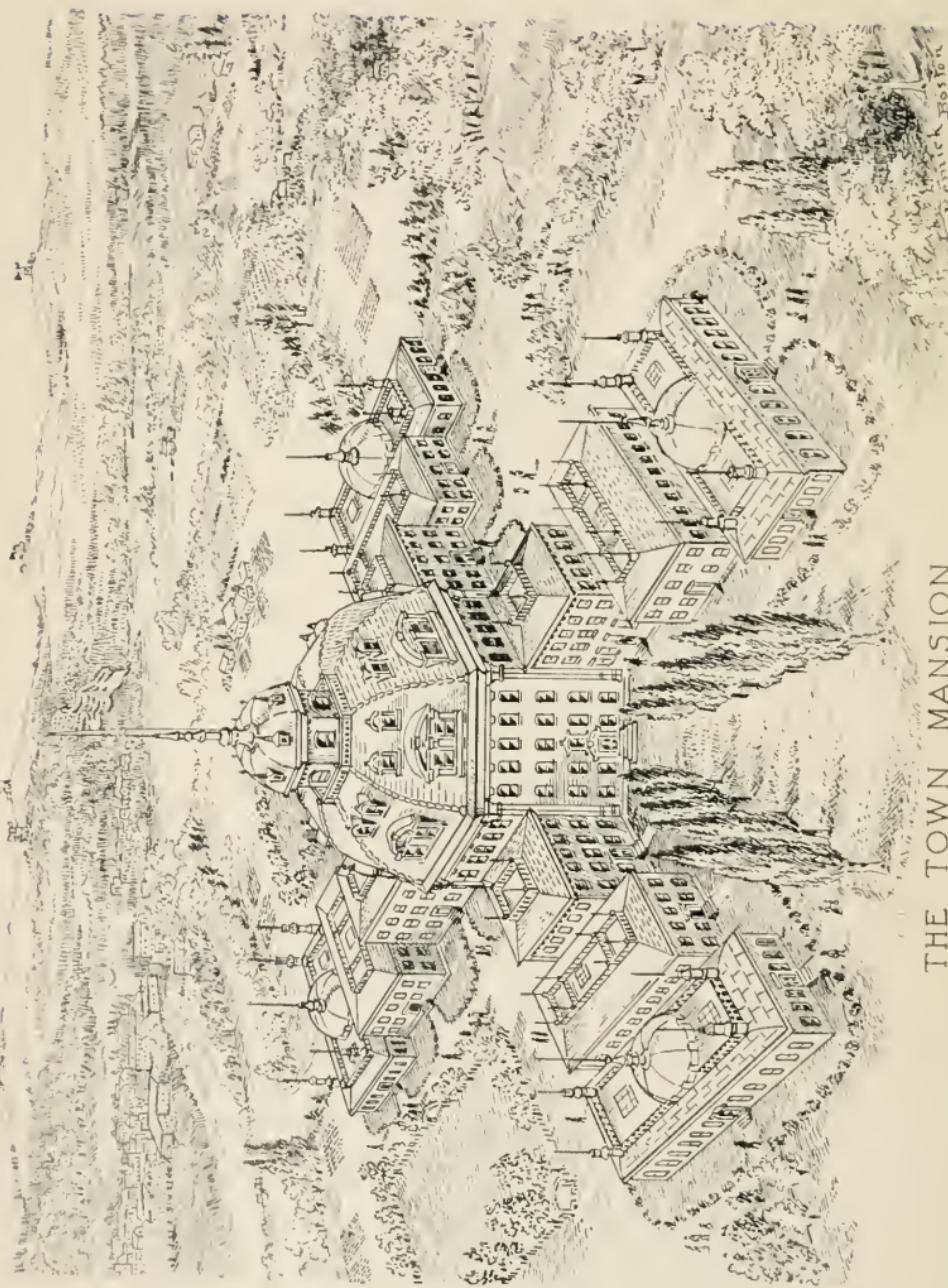




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THE TOWN MANSION



*For Thinking People.*

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# RECIPROCITY

(SOCIAL AND ECONOMIC)

IN THE

## THIRTIETH CENTURY

THE COMING CO-OPERATIVE AGE

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A FORECAST OF THE WORLD'S FUTURE

BY WILLIAM WONDER.

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Tze-Kung asked, saying: "Is there one word which may serve as a rule of practice for all one's life?" The Master said: "Is not RECIPROCITY such a word? What you do not want done to yourself, do not do to others."—Confucian Analects.

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## PREFACE.

This is a work of fiction, but not a novel. It is a love story, but on a scale beyond mere individual or sexual affection — it is of love of fellow man.

It may be thought that it portrays a condition of society that would constitute a Quaker world. But a world of peace, good will and brotherly co-operation among men would seem to be an improvement on the world of competition and strife which we have at the present day.

Is it not well to picture a better world, an earthly heaven, even at the risk of being deemed visionary?

To those opposed to or who fear "modernism," or free thought and inquiry outside the bounds of orthodoxy, it may not be acceptable. Such good people would better not read it.

But to the lover of the human kind, of equal rights and a "square deal," it may afford food for reflection.

It treats of what may be and should be in a coming age of intellectual and moral advancement — an age of co-operative social and industrial brotherhood among plain and right living people — a mythless and superstitionless age.

Plain men and women are dealt with in it, "ladies" and "gentlemen," as complimentary or conventional titles, being out of keeping with the simple dignity of the manhood and womanhood of a truly democratic and common sense people.

Finally, the aim of this work is to incite people to

THINK!



## INTRODUCTION.

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The inspiration of this work is derived from a long life of observation of social and industrial development during an era of the most remarkable progress in the world's history, namely, from a time antedating the middle of the 19th century to the early years of the 20th century—more than seventy years of active existence.

Four things to be noted in that period are—

First, The wonderful development of industrial power through the steam engine.

Second, The progress of invention, and employment of machinery in the arts.

Third, The development of a system of public education.

Fourth, The self-conscious awakening of the working classes in America and Europe, due to better education and more enlightenment as to human rights, and their participation in the activities of government.

Steam power has not only revolutionized the older methods of production, but it has, with the development of machinery, so greatly increased the productive capacity of the industrial nations of the world that it gives hopeful promise of immunity from grinding drudgery to the workers of the future.

Keeping pace with the development of the steam engine has been the invention of machinery. To such an extent has this development taken place that now the real artificer is the automatic machine, man being only the director and attendant.

Within the past quarter of a century a new form of

energy has been developed, which promises in the not very distant future to supplant even steam power. This is electricity, now extensively produced by steam power, but also quite largely by water power, and to some extent by wind power. These forces, it will be remembered, are all derived from the energy of our parent Sun. The time is coming when the coal measures will be exhausted, and water, wind, tide, and power derived from passing vegetation, will have to be availed of.

The system of general education, which is permeating and quickening the masses of Europe, America, Australia, South Africa and New Zealand, is silently but surely aiding in the moulding of a race of men of more intelligence and nobler characteristics. The results of this development are to be seen in every form of industry, in every phase of social life. A superior class of engineers, mechanics, inventors, operatives and even laborers, is being developed under the improved systems of education.

It may be true that the various systems of education in vogue are still imperfect, but enough progress has been made to show that the persistent quest after new methods will bear better fruitage, for all methods which are improvements result from tentative activities.

The trend now in educational methods is in the direction of industrialism—polytechnical and trade schools—which will undoubtedly in time replace the present leading methods, retaining their best features as part of the new system.

The self-conscious awakening of the working classes throughout the civilized world, it may be assumed, is one

of the important results of modern education and consequent enlightenment. The working people of this age, equipped with an intelligence which guides them to consider the most available means of bettering their condition and securing for themselves a more equitable proportion of the rewards of their industry than they now receive under the wage system, have been manifesting this dominant desire in various ways, such as by forming trades unions or associations for co-operative efforts to obtain better compensation for their labor.

There is another and more advanced class of laborers who are not satisfied with the scope of trades' unionism, but are for a federation not only of all workers politically in their own country, but an international federation of all working men for a common end. This class of progressive workers is known as Socialists.

The Socialists have had, and still have, in their ranks men of the highest mentality and broadest calibre, whose studies of and writings on political economy have made those of the earlier writers on the subject appear more confusing than enlightening. They (the Socialists) have established propagandist centres in Europe, America and other advanced sections of the world, and spread their doctrines by means of periodical publications and works on Socialism and political economy, most of which are of a readable and enlightening nature.

The Socialists advocate radical changes in prevailing governmental and industrial systems, but the revolution thus advocated by them is not of the nature that people commonly associate with that term. They do not mean

that it shall be accomplished through violence — brought about by bullets and carnage — but by ballots in the hands of the enfranchised, backed by enlightened public opinion, and peaceful methods of legislation.

In other words, as I understand it, the Socialists aim to obtain through legislative enactment all the vast and various industries and systems of transportation, all the lands, buildings and all other kinds of fixed property, for the use and benefit of the whole people — to make them public property, in fact. In doing this they do not propose to despoil or expropriate the property of any one without just compensation, but (as is the present usage in the operation of the law of eminent domain) that government should take them, pay for them a just valuation, and occupy and operate them by the people for the use and benefit of all the people. It is a most fascinating scheme for altruistic endeavor.

Assuming that this theory (for it is as yet only such) will ultimately become a practical reality, for it appears to be based upon the broad ethics of justice and humanity, the following work has been predicated.

This work may, in the existing light of the world, be looked upon as a dream of Utopia, and perhaps it is; but if it has not a justification in the recent, present and prospective developments in the political, industrial and social affairs among civilized peoples and the rapid spread of civilization among the backward races, then the writer has anticipated and estimated most illogically.

The united will and energy of the people, when wisely directed, will accomplish wonderful results. Unity of

action in electing to the law-making branches of government only men pledged to make such enactments as will give "a square deal" in the struggle for existence, is essential to the success of all popular movements by peaceful means. Economic changes, we are told, always precede political revolutions. The Social revolution will be both economic and political.

The path of progress for the workers of the world is through legislation, not through strife and bloodshed.

The man of the future will not be warlike. In him the instinct of the savage will have been eliminated by ancestral generations of peace-loving brotherhood among men. Co-operative will succeed competitive industry, and the incentives for aggression as well as need of defence will be non-existent.

In this work I have outlined a system of education which should logically accord with the highly industrial conditions of a commune like the one outlined, with variety enough of rational amusements — entertaining and also instructive — to suit all tastes, all ages, and give a zest and flavor of enjoyment to life.

The treatment of the criminal and insane suggested in the book as pertaining to the coming ages, while merciful and wise, is also properly considerate of the welfare of society. The most available method of eliminating vicious and undesirable elements from the population is confinement for chronic habits of crime and for lunacy, and consequent prevention of propagation; for the taint of heredity is not alone confined to physical degeneracy but to mental and moral deterioration, and is so potent

and persistent that even a favorable-to-reform environment will fail to remedy it and fit the unfortunate subject for rational participation in the concerns of normal world-life.

Marriage and other social customs treated are to some extent, it is believed, an improvement on existing ones.

A word of explanation in regard to the decadence of the God religions of today. The world will change in this respect in the coming ten centuries as it has in the past twenty or thirty. The old religions of the so-called heathen world, with their men-made gods, have been relegated to the limbo of the dead past. Yet in their day of dominance they controlled and swayed vast numbers of mankind. They lived their time of usefulness, and in the process of evolution were superseded by other forms of superstition, some of which still survive. These, in their turn, will inevitably go the way of all myths, and mankind, emancipated from such mental bondage, will rejoice in the freedom of a rational existence.

If this consummation cannot be expected in our day, it is a pleasing hope that future generations will yet realize it.

Then let us pray that come it may,

As come it will for a' that,

That sense and worth, o'er a' the earth,

May bear the gree, and a' that;

For a' that, and a' that,

It's coming yet for a' that,

That man to man, the world o'er,

Shall brothers be for a' that. [Rob't Burns.

THE AUTHOR.

# RECIPROCITY:

## THE COMING CO-OPERATIVE AGE.

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### CHAPTER I.

BY WAY OF PREAMBLE.—AN EVENTFUL JOURNEY AND  
CURIOS EXPERIENCE.

Is there such a mental phenomenon as prescience, or the anticipation of events? The Greeks and Romans had their oracles, their soothsayers and sibyls, who, it may be noted, are represented in this age by spiritests, psychologists, and others claiming peculiar mental and spiritual endowments.

The Jews had their prophets, who were imitated later, even in the history of the Christian era. All these so-called or pretended prophets had their believers and followers, and many honest people still believe them to have been endowed with some measure of inspiration, even if most of their predictions as yet remain unfulfilled. There is, for example, the persistent anticipation of a beatific condition of things which is to prevail in the uncertain future, popularly expressed in the optimism, "There's a good time coming," the condition for the advent of which is "wait a little longer," and the "boys" are still awaiting its coming.

In the early Christian times a millenium was predicted, when Christ would come again to earth, reign for a thousand years, and only the saints would inhabit the earth; but he has not yet materialized, though even to this day

there are many good people who look forward to the “second coming of Christ” with a confidence and hopefulness which is little short of sublime.

Whatever the significance of such aspirations, it may be admitted that they have a singular merit in the fact that they aim at better conditions of life for the human race; at least they furnish evidence that there are minds of such peculiar endowment and logical bias that they can deduce from acquired knowledge or mental concepts of the trend of moral, social and industrial affairs, a train of sequential development.

With these premises, I would ask attention to what follows—the record of what may be termed a vision of the future, or perhaps a dream. Have I dreamed it, or has it come to me in the guise of prophecy? You shall judge. I can not; for I have been nursing the thing so long that it has assumed to my mind a more than half reality—a kind of substantial unsubstantiality, if such a paradoxical term can be reconciled with the critical view.

When the infant awakens to the objective conditions of life he does not at first comprehend the novelty of his environment, having had no antecedent experience for analogy; hence his latent faculties, slow in developing, take years to mature. What would be his impression, however, if he came into the world with his faculties of observation and deduction fully developed—as if translated from one adult stage of existence to another and a radically different one?

It will, of course, be said that such an hypothesis is preposterous, because it assumes an impossibility. Per-

haps, however, it may be less absurd and more to the purpose to suppose that one, whom we may term a barbarian, but with an acute and observing mind, should be suddenly translated from a barbaric environment into a most highly civilized community and brought in contact with, to him, new and striking customs, educational and industrial arts, social refinements and pleasing manners.

The comparison in the present case may more properly apply to the barbarian hypothesis, for my vision, in some respects, has translated me, not into existing new and more highly developed lands and peoples, but into familiar scenes, under new and greatly changed conditions; changes for the better, in which may be noted a radical advance toward that ideal stage of human progress so often conceived of and described as that of a "golden age"—a condition of things under which life may be rationally enjoyed; where the clouds and glamor of ignorance and superstition have only a curious traditional existence, as fairy tales are now viewed; where all who think and plan and work receive their just share of the awards for thought, skill and labor; where justice to all is assured by all, and where men are brothers in fact as well as in name.

But to my visionary theme. You may call it visionary; but read it, my friend, and then you will be better qualified to judge of its merits. As to title, I have thought the work should be called *The Electrical Age*, for in it the application of electricity to all the affairs of life that require power, heat, light, chemical action, etc., is all but universal. But at the last moment I have thought of a

more comprehensive, a more ethical title—Reciprocity.

This is the story as I shall tell it:

#### GLIDING INTO FUTURITY.

I left Boston one pleasant morning in the summer of 1907, and arrived at my destination in Vermont, some twelve or thirteen miles west of White River Junction, about an hour and a half later on the same day in the year 2907. ‘This is impossible, absurd!’ you will say; but for my purpose it is a verity in a way. Let me explain the paradox in my fashion, if you please.

On the road, after leaving Boston’s immediate suburbs, I soon became conscious of a change in the usual characteristics of railway travel. The noise of the locomotive, its puffing of steam, smoke and cinders, the pounding of the wheels on the rails, the jolting and jarring of the cars, all seemed to have suddenly ceased, and in place of the swaying and noise of the train there was an absence of harsh vibration, as if the train were sailing on a smooth water surface or gliding through the air. At the same time there was a sense of rapid motion.

Surprised at the change, I looked from the car window and was bewildered at what I saw. It seemed as if a panorama of mingled landscape and open framework was rushing past with a velocity that left little more than a blur on the sight. At times the picture faded into darkness, as if the train were passing through some underground way.

At a loss to account for what I saw, I turned to a fellow passenger and asked for information. He was a well dressed and noble looking man, with a frank and

kindly countenance, and was willing to enlighten me.

'I judge by your speech and dress,' he said, 'that you are not familiar with your surroundings. Are you not a stranger in these parts?'

'Pardon me, sir,' I said, 'but you can hardly call a man a strang<sup>e</sup> who has made Boston his home for over sixty years, and has traveled on this line many times before today; but I will confess that things appear strange to me now. As to my speech and dress, I wear a good tailor-made suit, and feel that in speech I am not behind this twentieth century—this year of our Lord 1907.'

He regarded me keenly for a moment, and then, with a smile of compassion, as I judged, said: 'That is a very strange statement, my brother, passing strange; for this year counts just one thousand years later in that era of the world's history—it being the thirtieth century, 2907.'

'One thousand years later!' I exclaimed, 'that is impossible!' and I looked sharply at him to see if he were quizzing me.

'It may seem so to you, for what reason I cannot guess,' he returned, with no sign of banter in his tone, 'but you will pardon me for saying that to my knowledge it is a fact.'

'But how can it be? Only this morning I read in a Washington dispatch to the Herald President Roosevelt had—'

'President Roosevelt! Why he was one of the early Presidents of the Republic, famous as peacemaker, and as such his name is honored to this day. There have been more than a hundred presidents since his time.

How strange!' And he seemed to regard me with a puzzled expression, as if he doubted my sanity, but was too polite to give expression to the thought.

'Is there such a thing as resurrection after death, or am I wandering spirit? But I have no recollection of dying,' I said to myself; and then aloud: 'Why, it is not fifteen minutes since we left the North Station in Boston, and I have not been asleep. I am now wide awake, and this is a mystery. Is it not a waking dream? I'm not a hasheesh eater, and—excuse me, are you a real personage, a flesh-and-blood human being?'

He smiled at my question and said: 'I am as real flesh and blood as you are. Feel me, and be convinced,' and he extended his hand and clasped mine with a firm yet gentle pressure. It was indeed solid flesh, with the blood flowing rhythmically in it.

'Well,' he said, 'be you whom you may, I have no disposition to doubt your word, and as you seem uncertain in regard to your surroundings, I will answer your inquiries. You ask why there is apparently little or no jolting of the train, and yet the landscape and other objects seem to rush past with a blur. We are now going at a speed of one hundred miles an hour. The entire road bed is under cover, roofed over, and the tracks are as nearly straight and level as engineering skill can make them. There are no short curves. To accomplish this, hills and mountains have been tunneled, and the road-bed over valleys raised. The windows in the sides of the covering structure are lowered in the summer season, but closed in winter, except for ventilating purposes.'

This is to keep snow off the tracks in winter. The traffic on our railways, therefore, is never obstructed. The country highways, where they cross the railways, go over or under them. There can be no collisions with motor vehicles on the public roads. The covering structure of the tracks has concrete foundations and a superstructure and roof of metal. It is built to endure.'

'Wonderful,' I said. 'How are these cars propelled—by what power, I mean?'

'By the electric current.'

'By trolley?—overhead wire or third rail?'

'Neither; the current is produced on the cars.'

'How is it generated?'

'The power is derived from alcohol. It is used to run engines which operate generators. These, in turn, supply current to electric moters which propel the cars.'

'Do you depend on alcohol alone for the power to generate the electric current?' I asked.

'No, indeed, except for motor purposes. We employ water and wind pressure on a large scale for electric current production, also compressed air; but alcohol is most available on railways and on large freight and passenger vehicles, where it is more economical to manufacture the current required than to carry storage cells. But, I am told, we are about to realize a vast improvement in the matter of electric current generation. All forms of power heretofore employed were the products of sun energy, stored or manifested in different forms, but now we are promised the conversion direct of the solar energy into the manageable electric current. It has long been

known that electricity is but a form of the energy given out by our sun, which in turn derives its potency from the great universal store of cosmical energy. But you will please excuse me, as I get off at this station. This is West Hartford, Vermont.'

'Why this is where I get off also,' I said.

Upon leaving the train I found myself in a spacious station, which spanned the tracks, and connected with the track shed and an overhead bridge. I looked at the cars of the train. They were of metal and seemed light but strong. I could see no wheels, but the trucks rested on legs, and these extended into deeply-grooved rails, shaped in cross section like the letter U. How could these legs slide in the grooves of the rails with apparently so little friction? My traveling companion explained that these legs had shoes or skates on their lower parts which fitted loosely into the rail grooves. At the bottom of the grooves were steel balls, separated by smaller balls held in dividing sleeves, a device which prevented the carrier balls from interfering with one another. This system provided a rolling friction which was as nearly frictionless in operation as could be obtained in practice. No lubricants were needed, and only enough oil was used on the balls to prevent oxidation. The shoes were also provided with anti-friction ball bearings on their sides, so that they could not bind in the rail grooves. These shoes, being liable to wear on the under side, were made to be easily attached and taken off.

'It must have cost many millions to build and equip these railways in this complete fashion,' I remarked.

‘Yes; but conversion from the old system was gradual, extending over hundreds of years, and was only accomplished after the general government had acquired these roads. With the present system there is a great saving in operating railways over the old one.’

‘By what mechanism is the cars propelled?’ I asked.

‘Each car is propelled by two central wheels resting on a broad central T rail. These wheels are double flanged, with deep flanges, which embrace the rail so thoroughly that they cannot be thrown from it. The wheels are operated by electric motors, as I have already stated.’

We left the station just as the train glided silently away. Outside the station I was surprised at the number and appearance of the business structures and dwellings, the broad concreted streets and sidewalks, as well as the general air of maturity that pervaded the town. The White River still flowed in its old channel, which had been deepened, the rocky ledges having been removed, and its banks were no longer serrated with road-washed gullies. Cemented walls lined its banks.

‘Where,’ I mentally queried, ‘is Mr. Perry, the mail carrier, with his lumbering coach and plodding horses?’

No horses or horse carriages were in sight, but there were horseless vehicles in abundance, standing around or in motion, and I now noticed that a fine concrete bridge spanned the river.

‘I live in Pomfret,’ said my companion of the journey. ‘Whither are you bound?’

I said I was bound for Obed Whipple’s at North Pomfret, Mrs. Whipple being a famous cook and her house a

resort for city people in the holiday season. He did not know of such a family in that section of the town, though there were people of that name in other parts of the town. Would I accept his hospitality until I got my bearings? I gladly closed with the offer. I had thought to ask to be directed to a hotel, failing to find my friends, but could I find any one in the place who would be so considerate of my evident ignorance of it and its people under the new order of things as this man appeared to be?

‘My name,’ said my host-to-be, ‘is Wellman — Aaron Wellman. And yours?’

‘William Wonder.’ I would have added ‘of Boston,’ but doubted if I could establish the fact of residence in that city in the year 2907, A. D.

‘Well, Mr. Wonder, put in your valise and take a seat in this little runabout, which has been waiting me here since morning. We will soon be at my place. In regard to myself, I may tell you that I am one of the merchants of Pomfret, and have been to Boston, to which city I go occasionally on business. I said merchant of the town, but should have said for the town, since all kinds of business, all industries in fact, are carried on by or transacted for the municipality, and in this respect I am simply an agent of the people, the commune.’

This bit of information set me to thinking, but when we were seated in the carriage and my host assumed the lever, pressed the button, starting the vehicle at a lively pace, my attention was diverted to the passing objects. Other carriages were on the road, some large like electric cars — they did not run on rails, but free, like smaller

vehicles, their power being evidently produced on them or was obtained from storage cells. On inquiry, I was told that the larger vehicles were run by electricity and the smaller by spirit motors. I noted that the roadway was ample, being about 70 feet in width, with concreted surface. Fine shade trees lined it on either side. I expressed satisfaction at the fine roadway, and was told that, after being macadamized on a substantial foundation of broken stone, it had been surfaced with a thick coating of cement concrete.

The houses along the highway on both sides were substantial in appearance, with tasteful architectural features, and indicated taste and homelike comfort. Mentioning my impressions to my companion, he said: 'We have a population of over fifty thousand people in this town; they are all well circumstanced, live in comfort and enjoy life.' (When I was last in Pomfret its population was only about 800.)

'Are they all farmers?' I asked.

'Oh no; they are mostly artisans, but many of our people who are not farmers have a few acres of land, and raise fruits and vegetables sufficient for their own consumption. But all have small kitchen gardens, as well as flower gardens in which flowering shrubs, annuals and perennials, are cultivated, for the love of flowers is a passion with our people. The small farmers raise corn and other cereals, root crops, hay and other food for cattle, for the commune; most of them keep cows, pigs, poultry, and have butter, milk, eggs, and other farm products to dispose of.'

I noted that, instead of perishable wooden or rough stone fences, broad dykes of earth flanked the roadway, on which blackberry and raspberry bushes grew in profusion, down the sides as well as on the top. Also, that dykes formed the boundaries of farms and divided fields, but with fruit trees as well as berry bushes growing on them, planted at intervals, such as apple, cherry and plum trees. I remarked on this, whereupon my companion stated that land had become so valuable that orchards, except on the larger of the small farms, were not cultivated, but that the small farmer, by utilizing the broad earth-dyke fences, raised enough fruit for his own use and sometimes a small surplus. On the line dyke fences each farmer was entitled to half the berries and fruits.

We now drew up before a group of substantial buildings in the centre of the town. The main structure was a large one, and projected some twenty feet beyond what appeared to be wings on either side. It contained an extensive store, with several entrances — more like a metropolitan department store of the present day than a country trading place. The structures attached to it on either side appeared to be dwellings.

‘Here,’ said my companion, ‘is where I live. You will please alight, and wait a moment while I put up the carriage. Then we will go into the house.’

I thought it odd that a man in his circumstances did not have a servant to do such offices. I looked at my watch and was surprised to note that it was less than two hours since I had left Boston. I at first thought my watch had erred, but on stating my suspicion to my host

he assured me that it took less than that time to go to or return from that city.

In his house he introduced me to his wife, a fine motherly woman, and his only daughter, a charming girl of about twenty years. There were two sons, older, I was told, but they were not present. One of them was married and domiciled on the other side of the store, of which he was assistant manager. The other was a worker in a factory.

I was cordially welcomed by the wife and daughter, and shown to a room—a kind of guest chamber, I judged—where I found every convenience for the toilet; but noted that there was no bed visible. Having made my toilet I descended to the living room, where my host, his wife, daughter and younger son (who had come in in the meantime) were seated, chatting pleasantly. The son was about twenty-five years of age, with a frank, honest face, an athletic development of body, and a self-poised, modest demeanor.

I was at once charmed with this family, their mild and even gentle manners, evident affection for one another, spontaneous cheerfulness, and vivacity of conversation. The language employed by them was choice and unaffected. In fact their conversation showed that they were people of culture and intelligence, and I realized that I was a guest in an exceedingly well bred family. Though I suspected that these people looked upon me as a somewhat peculiar person, perhaps a lunatic, yet by no word or look did they show that they regarded their guest as other than an ordinary visitor.

The usual greetings exchanged, I had an opportunity to note my surroundings, and then observed that there were neither rugs nor carpets on the floor, which latter appeared to be composed of tiling of a dull earthy color or shade. The dado of the walls was also apparently of tiling, with deep foliage coloring, while the walls were finished in a glazed plastering, representing richly tinted and veined marble. The frieze was of mosaic design in geometric figures. The ceiling was of white porcelain finish. It could not be tiling also, I thought, for the surface was unbroken. The windows were wide and high, extending from floor to ceiling. Being open they admitted the air and sunlight freely. The sashes were hinged and in two parts, and folded inward. There were no shutters on the outside, as I had noticed before entering, and now I saw there were no curtains on the inside.

Further observation was interrupted by the announcement that a meal awaited us, and I was shown into the adjoining dining room where, instead of a family dining table, I saw several small tables grouped together, one for each participant, on which dishes, food and condiments were placed. There was also a small vase of flowers on each table. I was conducted to one of the tables, which were so arranged that the diners could readily change their positions to talk or listen to the conversation of the company or to any one of them at pleasure. To facilitate this the table legs were provided with large wheel castors. The dishes—some, at least—were new to me. The food was largely vegetal and cereal, cooked in new combinations, I judged, and there were potted

meats. A fine mutton chop, however, graced my plate, to which I was prepared to do ample justice. There were also berries and bananas.

I paused before beginning the meal, expecting that Mr. Wellman would ask the usual blessing. Instead of this he simply said: 'There are three things necessary to the full enjoyment of food: a normal appetite, good food well cooked and cheerfulness. They are all equally essential to its enjoyment, the proper nourishment of the body and health of the mind. Begin!'

During the meal the conversation, of which I was a listener, referred to current events, neighborhood interests, ethical matters, amusements, and to discoveries and developments in the arts and sciences. There was no talk of scandal, crime or evil happenings. The meal lasted nearly an hour. No one appeared to be in haste to end it. Why should they, I thought, for I had never enjoyed a meal so much before. To me it was not only a dinner but a conversational entertainment as well.

When the family arose from the table, my host invited me to go out on to the spacious veranda, where, with his son, we found comfortable reclining chairs, the women intimating that they would join us later. The house was located on the eastern slope of an eminence, and overlooked a beautiful valley which was lost in the windings of the distant hills.

We sat for several minutes silently contemplating the scene before us. The valley, hill slopes and summits were checkered with small farms, each having its group of dwellings and outbuildings. In many places, around

large buildings, evidently factories, were clusters of dwellings, small villages, in fact. Seen in the light of the afternoon sun, the walls and roofs of the buildings in the angles of reflection seemed to have a glazed surface, between a red and brown stone effect. Remarking on this, my host informed me that the material composing the walls and roofs of all the buildings were a compound of cement, sand and crushed stone, covered with a composition which produced a surface like polished stone. This covering contained the coloring matter which gave complexion to the buildings, the shades being chosen to suit various tastes. As a rule, however, the sober tints were commonly employed.

‘The construction is what is known as composite,’ said Mr. W. ‘Formerly structures built of this material had steel frames, but since the iron ore deposits had become so nearly exhausted, iron and steel have advanced so enormously in cost of production that wood had to be substituted. Oxidation of the steel and iron employed in the earlier buildings of great cities, due to electrolytic action and other causes, compelled the municipalities to tear most of them down, and rebuild with non-oxidizable metal compounds or wood reinforcement, the former of which is used only in the most important structures on account of its great cost. The iron and steel recovered from these torn-down buildings, it is said, more than paid the cost of rebuilding in concrete with reinforcement of wood.’

‘But with wooden inside frames and flooring is there not more danger from fire than with metal frames?’

'We do not have fires in buildings nowadays, and have not had for hundreds of years past,' he replied.

'How do you light and heat your factories and dwellings in the cold and winter seasons?' I asked.

'We heat as well as light them by the electric current, so arranged and controlled as to serve both purposes without liability of igniting inflammable substances in the buildings. Even if such materials should be ignited by accident or spontaneous combustion, they would burn up without material injury to the buildings themselves. Of course this applies more directly to dwellings. In factories using cotton, flax and other inflammable materials the danger is greater; but even in these the precautions taken, which in the first stages of manufacture include a chemical treatment of the fibre rendering it fire resisting, are invariably successful in guarding against spontaneous combustion or destruction by fire of dress fabrics. A woman's cotton dress or apron, for example, will not ignite and blaze up from a light or flame contact. In this town, I may tell you, we have no record of loss by fire in the past six hundred years.'

At this I expressed surprise as well as gratification, remembering the millions of dollars worth of buildings, with even more valuable contents, which were annually destroyed in New England alone, and the consequent necessity of maintaining an extensive system of insurance and protection in the way of fire extinguishing and operating companies. Of course, I remarked, there was no call for fire insurance companies in that town.

He smiled and said that such institutions existed only

in ancient history. ‘We practise the lesson,’ he said, ‘which our forefathers were thousands of years in learning. It is, after all, so simple that it can be comprised in one word — prevention.

An aged man of venerable appearance, but hale and hearty, with keen, bright eyes and benevolent face, now joined us.

Mr. Wellman said, ‘Mr. Wonder, this is my father. He has nominally retired from active pursuits, but, like a boy, he cannot remain wholly idle. He is well versed in all the things which you appear eager to obtain information of in our town, and I know he will be pleased to enlighten you on matters which may interest you.’

I thanked him for the introduction, and said I was fortunate in obtaining a wise and experienced and I hoped a patient teacher, for I feared I should prove a very inquisitive pupil, perhaps a tiresome one.

‘Do not fear that,’ said the venerable man, ‘for I am never more in my element than when imparting what little knowledge I possess to interested inquirers. I was not a professor in a college for more than forty years without acquiring a habit or faculty of not only imparting but of gaining information.’

The women now appeared, having, as they said, performed the kitchen work, and prepared for the next meal. The family seemed to be well enough to do to afford to employ servants, and I wondered why this wife and daughter were compelled to do the work of hired help. Apparently guessing my thought, Mrs. Wellman said to me:

'You may perhaps be surprised that we should do our own house work; but this is a general rule with women in this age. There are no house servants, the women of the family doing the work. But if, owing to death or other causes, there are not enough women in the family young persons are adopted, who have all the rights of natural children, and are also insured a good education. My daughter and I cook, wash and do all other domestic work. No woman is above such duties. Indeed it is regarded as healthful and pleasurable employment, as viewed from a common sense stand-point. When we began to have a family, mother and sister aided me in doing the domestic work and caring for the children. We lived together and were a happy family. When our children grow up and marry we assist them in the same way, for we are still one family. My married son lives with his wife's people, and so will this son when he takes a wife. When my daughter marries, she and her husband can live with us, if they so elect, for the custom is not invariable. You can see from this that marriage of children does not always break up families, but sometimes enlarges them, for a time at least.'

Here, in a few words, was revealed one of the sources of this family's domestic happiness, and I inferred from what was then said that it might be a general usage in this age of the world, and gave to the idea of home a more comprehensive significance. But further inquiry showed me that I was in error, for I was informed that this custom was by no means a general one. Not many families adopted it, for to most people it seemed to trench

upon the independence of the individual, which, to this family at least, seemed an unsound proposition. But, then, people had the right to arrange their domestic concerns to suit themselves.

By this time we had another addition to the family circle. A stately old woman appeared on the veranda, and stood smilingly regarding the stranger. I arose and bowed.

‘This is my mother, Mr. Wonder,’ said my host.

‘I am late,’ she said, after kindly greeting me, ‘as I had to arrange for a meeting of the matron’s guild, of which I am now president. We are to meet tomorrow in the town mansion.’ This to the family.

‘The matron’s guild,’ explained the elder Wellman, ‘is a council of old women who meet from time to time, as exigencies require, to talk with young wives and maidens who may ask for advice on any and all matters of a domestic or personal nature that would call for maturer judgment than they think they possess. All family difficulties that are brought to them are acted upon and adjusted by them, their decisions being usually accepted as final. But matters which can not be adjusted in this way may be appealed to a referee board composed of three members of the matron’s guild and three of a similar guild of old men—the patriarch’s guild—whose function is to consider in a similar way the troubles and difficulties of young men, married and single. These guilds rarely have much to engage their attention, though their agency in settling such personal and family troubles as are appealed to them is usually effective. Their

counsels are always for peace and harmony, and their decisions are based on justice tempered with mercy.'

'Yes,' said the matron, 'our motto is peace and harmony, and to promote these is our purpose. We know that young people, in their early married experience, or rather inexperience, may disagree, often about trifling matters, and become very unhappy by nursing and thereby increasing their grievances, when an appeal to older and more experienced men and women, who have only their well-being at heart, and a frank, open talk and good advice, would most likely restore good feeling and harmony. We counsel moderation and kindness, and show that a calm and kind answer, or discreet but not sullen silence is the best form of treatment for an outburst of temper. We counsel most earnestly that, if it is not controlled, only one of the parties to a controversy give way to temper at one time, for the one who does so first, if of a generous nature, will surely feel regret for it after a time, especially if not angrily opposed. In this way, in co-operation with the patriarch's guild, nearly all cases that come before us are happily adjusted. When the married parties have lived together a few years they have usually acquired the habit of being agreeable and loving to one another. This is more likely to be the case when children are born to them.'

'In cases of contemplated marriage we are often appealed to in regard to the compatibility of the parties contemplating it. As we know them and their antecedents we can fairly decide and advise. In this work we are also in co-operation with the patriarch's guild.'

The appeals to us for guidance in these matters are all voluntary, and our decisions are not binding, but they are invariably accepted, being upheld by public opinion, when they are made public, though publicity is rarely sought by either party. They are usually acquiesced in, however.'

The married son of Mr. and Mrs. Wellman, his wife and a bright son of four years, now joined us, and took part in the general conversation, which was now changed to other themes. I now learned, incidentally, that this pleasant domestic reunion was a matter of daily occurrence. I noted with pleasure the marked deference of the younger to the older people, and the evident affection for one another which pervaded the whole family. The boy, however, was attracted to the stranger, and approached me in a half bashful way, as if uncertain in regard to the manner of his reception. I spoke kindly to him, and thus encouraged he soon became more intimate and confiding, being attracted by my gold watch chain and charm, which latter is of a rare mineral. I took the lad on my knee; he asked what the chain was for; I explained its use, taking out my watch and holding it to his ear. Noticing this action the patriarch (his great-grandfather) said:

'Like all children he is curious. But,' and he took the watch in his hand and examined it, 'this is indeed a curiosity—an ancient time-keeper, and is actually recording time. (My watch, I may explain, is of a late Waltham make, and to hear it called ancient amused me.) We have some of these early makes of watches in our

State museum. Our time recorders are quite simple in comparison, and keep accurate time. They are not liable to get out of order and will last a lifetime.'

He took from his vest pocket a disk about the size of a lady's watch. Its case was of composite metal, a gold bronze. It had an open face with white dial. It was marked for 24 instead of 12 hours. Within the hour circle of figures were ten figures noting successive figures of 10 up to 60, indicating the minutes of the hour. The hour hand and figures were black, and the shorter minute hand and figures red. So far in the dial arrangement did it differ from the one I carried, but it was in the internal construction and operation, I was told, that the radical difference was to be noted. It was operated by magnetic force instead of power stored in a coiled spring. The actuating parts were few in number and simple in construction, the movement being based on the interaction of minute permanent magnets — like poles repelling and opposite poles attracting — so adjusted as to produce in the mechanism under influence a rotary movement of the hour and minute hands on the dial.

'Our time dials in the house are operated in a somewhat similar way,' said the patriarch, 'except that the power comes through electro-magnets, and they are controlled by the local central time recorder. I may tell you that we rarely consult these pocket time pieces when we travel, as in every car, in all railway stations, in every room of hotels and at every street intersection time recording dials can be found.'

Our conversation was prolonged into the gloaming, I

had so many questions to ask and they so ready to answer my inquiries; but not into the night, for suddenly, as by a flash of sunrise, the hills and valleys were aglow with thousands of electric lights. It was a splendid and inspiring scene, and all the more interesting when I considered that it was sunlight in a secondary form which had been recovered and used again by the genius of that god-like animal, man.

I soon realized, however, that the practice of this family was 'early to bed,' and after a few words of mutual good wishes by all we separated for the night. The little fellow, with whom I had established a new friendship, said at parting that he would come to see me on the morrow, when I promised to tell him more about my home in the big city, my children and grandchildren.

I was shown to my chamber, the house being lighted with electric glow lamps, and a couch which had been concealed in an alcove on my first visit to the room was now visible, drawn out on to the floor, ready for the sleeper. I was instructed in regard to certain details, such as turning out the light, and bidden good night by my host. The room windows were open to admit the air, but were so adjusted that the wind would not blow on the sleeper. My brain was filled with strange and bewildering thoughts, inspired no doubt by the curious experiences of the day. I was also somewhat fatigued, and therefore not averse to repose. I disrobed and laid down. The couch was a comfortable one and fitted my drowsy mood like a well-made garment, and I soon lost myself in slumber.

## CHAPTER II.

SUN INVOCATION—VISITING THE TOWN MANSION.—A  
SUN-COOKED DINNER.

After a night of dreamless sleep, though it did not seem to me to be more than an hour in length, I awakened just as the unrisen sun was brightening the eastern sky. I felt refreshed and invigorated in body and mind, but still more than mystified in regard to my whereabouts and even my own identity.

Making a rapid toilet, I at once descended to the sitting room or parlor. The window leading out on to the veranda was wide open, and as I neared it I found that the entire family was assembled on the veranda, all with faces turned toward the just risen sun. As I joined the standing group, the senior or patriarch uttered an invocation to the great luminary. Raising both hands—a movement followed by all the others—he said:

‘Our parent Sun! Source and sustainer of all life on our earth! We hail thy advent as the return of a friend and benefactor! In thy presence and under thy benign influence we begin a new day with renewed resolves and aspirations! May we have the strength and the courage to live up to our purpose to do only what our best conceptions of right and duty to our fellow men dictate; to do what we can to promote peace and harmony among our fellow beings; to do all the good we can; to injure no one by word or act; to aid those who need our assistance; to be honest and upright in all our dealings; to be

cheerful and complacent to all ; and, finally, at thy going down today, may we be able to reflect that we have carried out these purposes to the best of our ability ! We know that to thee this invocation is as a breath of air, but to us its influence in the regulation of our lives is of the greatest import ! Amen !'

With the others I joined in a hearty ‘amen !’ to this simple yet grand invocation. It was a new and an agreeable experience, not likely to be forgotten, for it comprised the essence of all true religions.

Breakfast was now announced. It was a family affair, evidently arranged in honor of the stranger. At this meal the purpose of separate tables became more evident to me, as, after partaking of the food, the family wheeled their chairs into a group to indulge in social converse. The viands consisted of cereal and vegetal substances made into dishes new to me but very palatable. Fruits of various kinds also graced the meal. The drinks were cocoa and water, the cocoa being rich and delicious. The patriarch and his wife took a leading part in the agreeable conversation which succeeded the repast. There was nothing controversial in the discussion of any topic, each of the speakers giving an opinion or stating a fact with courteous moderation.

The morning papers, containing the news of the world of the preceding day were brought in, and leading events recorded in them read and discussed. I was interested in the make-up of the papers — there were two of them alike in size and general features. The pages were about 10 by 12 inches, folded, cut and stitched in pamphlet

form. I was at a loss to account for the fact that there were no advertisements in them. One, entitled ‘The News,’ was dated Boston. The other, ‘Daily Events,’ was from New York. Both bore date ‘Thursday, July 12, 2907.’ They were filled with short articles and paragraphs, telling of various happenings in all foreign countries as well as in the United States, and also of new discoveries and inventions, under appropriate general headings. The records of happenings were given without comment, as statements of facts and occurrences. They were models of terse journalism.

I inquired as to the number of newspapers that were issued from the presses of New York and Boston, and was told that only one daily was issued in each city in the country. As one paper in each locality gave all the news, it was considered that one daily could meet this demand and more papers would be superfluous. There were other publications, weekly and monthly, devoted to special lines of information, such as educational, scientific, mechanical and industrial affairs.

I was told that the papers of the large cities were put into type, plates made of the pages, which were transferred at an early hour of the day to railway cars equipped with presses, printing paper, and so forth, the presses being started printing soon after the cars left the city. As these cars proceeded on their way, bundles of papers (fully completed, that is, folded and wired) intended for each locality on the lines and towns and places contiguous thereto were thrown off at certain stations without checking the speed of the cars. The presses were

capable of completing over 300,000 copies an hour, and there were two presses on every car. This arrangement enabled the whole country to be supplied with the news of the world every day in the year, each of the metropolitan cities having certain territory of its own to cover, though in many cases two cities covered in part the same territory.

I examined the papers curiously, for the reason that the print, at first sight, seemed unfamiliar; but I soon saw that many of the words were phonetically spelled, the silent vowels and double consonants being eliminated. I may confess that for a time I did not get much satisfaction out of this condensed form of spelling, but after a little study I could read the words without difficulty. It was as unfamiliar to me as my new surroundings, but not as pleasing. I could not but acknowledge, however, that there was much merit in the system, and that it was appropriate to the condensed form and style of journalism of the day.

‘How is composition in printing offices performed?’ I asked.

‘By machines, principally,’ was the reply.

‘Are single alphabetical characters still employed in composition?’

‘In part, yes; but only in part, for combination characters enter largely into composition and render it more rapid and correct. Prefixes, postfixes, articles, conjunctions, and portions of words in common use which can be readily combined with single characters to make the words called for, are employed in composing machines.’

‘But does not this system call for a large and complex key-board?’ I asked.

‘A large keyboard, yes,’ replied the patriarch, ‘but not a complex one, for its method is simple and easily learned. With these letter combinations an operator can compose two thousand words an hour with ease. Metal is not now employed to make plates from but only the lines. To make the plates to print from, the matrix is filled with a quick-setting cement, which hardens to a degree that renders it available for printing. Cylinder completing presses are now in general use. They print, fold, wire and deliver the papers at a marvellous rate of speed,’ said the patriarch.

Surprised at his knowledge of the technique of the printing art, I asked if he had learned it.

‘I did, when I was young,’ he replied. ‘It was and is one of the courses of study in a collegiate education. It is in the course of philology. I worked at it or rather studied it for nearly two years.’

Our conversation at this point was interrupted by my host who informed us that a carriage was in waiting, and as the patriarch was ready to accompany me on a sight-seeing tour we at once responded to the summons. Before leaving, I sought to thank him and his good wife for the entertainment I had received at their hands, as I intended to seek a hotel to stay at during my sojourn in the town, but was interrupted by Mr. Wellman, who said :

‘My dear sir, do not think of leaving us. We are your debtors for the novelty and pleasure of your presence in our home. We both desire that you continue to

be our guest while you remain in this town. My father will take you in charge, show you all that is worth seeing in our little commune, and give you such information as you may desire. I would be glad to go around with you myself, but my business will not permit it. My father has ample leisure and will deem it a pleasure to accompany you. If you went to a hotel you would still need a guide to show you around and give you information, and there are few men better able to do this than he is. Besides, if you will remember, he has already volunteered to do it.'

Patriarch Wellman heartily assented to this, employing other arguments to make me change my purpose. We went outside and his wife, the matron, now joining us, we entered the carriage, which was a double-seated run-about set low on wheels of small diameter.

'You can understand, Mr. Wonder,' said the patriarch, 'that we old people do not desire to move about at more than a moderate gait; besides, small wheels climb steep grades, if more slowly, with less power than large ones. We will first go to the town mansion and leave mother. Then we will move about, just where, circumstances will probably determine, but there is much to see even there.'

The highway was well occupied with vehicles of different sizes, going in both directions and at varying rates of speed. Some of them were quite large, being apparently public vehicles. People entered and left them at different points. I was at first so intent on observing the vehicles on the street that I scarcely noticed anything else; but my attention was presently drawn to the people

on the sidewalks. They were all neatly dressed, prosperous-looking and apparently very sociable, chatting as if on intimate friendly terms. The women were tastefully but not extravagantly attired. Their dresses varied in material, make and color, showing marked individuality of taste, and I noted with pleasure that their skirts were sensibly shortened to about five inches above their feet, of which they were evidently not ashamed. They were large, but I did not see a fat woman among them. Neither were they lean, but full-chested, muscular and hearty enough to enjoy life.

'These people,' said the patriarch, who was respectfully saluted by many of them, 'are on their way to their various occupations. We are all industrial as well as industrious. Everybody works during the active years of life, that is, up to 65 years of age. After that none is expected to labor, but may, if they are so inclined; as a matter of fact, many men work into the late 70's, from choice. But even after retirement, the industrial habit usually keeps them active in such matters as they may fancy, even into old age, as in my wife's case and my own, especially in affairs that call for experience and mature judgment. No one who desires to further the best interests of the commune need be altogether idle. There is always something to interest and attract people of all ages and conditions. In age, senility is often hastened by idleness.'

We were now approaching the town mansion, which was situated on the crest of the highest hill or ridge in the town.

‘We have named this group of buildings the “Town Mansion,”’ said the patriarch, ‘because in it, or in the group composing it, are located the various town offices, the post office, town treasury, meeting place of selectmen and the schools of mechanic arts, electricity, chemistry and other useful educational branches of learning, where graduates of grammar schools are instructed in the various arts and sciences, and all the higher branches of learning which have a use in our civilization. Lecture and concert halls, theatres, gymnasia, etc., are also located here, the location being central and easily accessible from all sections of the town. We shall first stop at the main building, which contains the town offices, the post office, and so forth.’

The town mansion I found, on approaching it, as well as on closer examination, to be a collection of attached buildings. The main or central structure was a large octagon building, four stories in height, crowned with a covering dome, with a cupola on top for observation purposes as well as for architectural finish. From four of the sides of this building facing the four points of the compass, there extended or radiated a series of structures, the first being not wider than the angle face of the main building to which it was connected, and was three stories in height. The next building was longer and wider, two stories in height, but attached to the inner one only above its second floor. This left a wide passage-way connecting the different wings, for the convenience of carriages and pedestrians. Outside the two-story attachment was a much longer and wider structure of only one

story in height. This wing or series of buildings, in similar size, form and style was repeated on each of the alternate faces of the angles of the main building, the entire group being in the form of a Greek cross, the lines of the arms being serrated. The roofs of the buildings composing the wings were ornamented with small domes and minarets. The entire group presented a bizarre and yet not unsymmetrical combination when viewed from a near standpoint, but from a distance, as I afterward noted, it had a very attractive and even artistic effect.

The one-story outside structures were used — one for a gymnasium for men and boys, another for women and girls' gymnasium; a third for a chemical and electrical laboratory, and the fourth for a school of mechanic arts. These outside buildings were 100 by 200 feet in area, were lighted from the roof and the sides, and those used for educational purposes were equipped with machinery and other apparatus employed in the various branches taught in them, while the two large gymnasiums had all the appliances in vogue for exercise and physical development.

The two-story buildings, with passage-way under them contained ample halls arranged for seating large audiences. One was used for theatrical exhibitions, another for public meetings or lectures, a third for concerts, and the fourth for vaudeville shows and other amusements of a like character.

The wings proper or three-story buildings had various uses — one for schools of mathematics and other studies which did not require the employment of machinery or

elaborate apparatus. Another of the wings proper was devoted to the training of young women in the sciences and professional work, such as chemistry, anatomy and physiology, gynaecology and obstetrics, for midwifery, as I learned, was practised only by women. The domestic arts were also taught in this section. A third wing was devoted to the instruction of young men in surgery and therapeutics. It also contained a law school, in which nearly all young men received a measure of instruction in jurisprudence, though but very few were graduated as professional lawyers, litigation in courts of law being a thing of such rare occurrence that few followed the law exclusively as a profession. An acquaintance with the general principles of jurisprudence was, however, regarded as a necessary part of a liberal education, and qualified its possessor to know his well-defined rights under the law, as well as how to assert and maintain them.

‘For,’ said the patriarch afterwards, speaking of this acquirement, ‘in this particular as in many others such knowledge makes men more self-reliant, and, knowing their own rights, are all the more ready to accord to others the same rights and not infringe on them. Actual contests in courts of law are so rare that we seldom hear of them. I believe it is an old axiom that lawyers rarely go to law on their own account. In this town I have no recollection of a case at law being tried, though we have the means of trying such, if need be. With us every man is practically a law unto himself, and needs no coercion to make him act justly towards his fellow men.

We are not saints, but we can be good, self-respecting citizens, having due regard for the rights of others as of our own.'

The fourth wing was devoted to the use of students of both sexes who made studies in special branches of science. Inventors, experimenters in chemistry, physics—any, in fact, who promised useful results in the arts and sciences—were given opportunity to develop their ideas and aided in so doing, the results of their labors becoming public property, as the national patent office was now used only as a court of record, its awards being largely honorary. To the recipient of a patent, however, it was an award of merit that carried with it great honor, if not riches, though it conferred upon its possessor a handsome pension during life, paid out of the national treasury.

The main or central building contained the town offices and the town treasury, as well as the central post office and the offices of the various industries of the commune, for, as I learned, all industries, of whatever nature, were carried on by or for the commune.

Our carriage stopped at one of the entrances to the main building—there were four such entrances, the halls meeting in a central rotunda—and we alighted and went in. The old woman turned aside to the matrons' room on the first floor, and we took one of the elevators for the upper section of the building. There was no attendant in the lift, but after we entered my guide pressed a button, the door closed, and we mounted upward to a landing at the gallery near the top of the dome. The patriarch, before we landed, showed me that there was a

separate button in the car for each landing, and the operation of the elevator was automatic. The pressure of a button on any floor outside the elevator well would call it up or down to stop there, and once the passenger was inside it could be directed at will. It could not, however, be operated from the outside when carrying passengers up or down, but only called, and when vacated would respond to the call.

A stairway from the gallery of the dome led up to the cupola. From a staff on the eupola floated a fine American flag, and from the open windows of this crowning structure we had a magnificent view of the surrounding country, with the White Mountains forming a background in the east, the Green Mountains north and west, and on the south the noble valley of the Connecticut River—a grand view, that was all the more inspiring to me when I reflected that every arable acre of this vast territory was under cultivation or in useful fruit and forest trees; that intelligent, peaceful and contented people cultivated farms and operated factories, and that peace, prosperity and plenty pervaded the entire country. But perhaps I am anticipating—am ahead of my story, so to speak. As we descended from the eupola my guide said :

‘ We will now visit some of the schools. We have in different sections of the town primary and graded schools, where instruction is given to pupils, in advanced classes, in elementary chemistry, physics, mechanical drawing, and the application of these and other matters to the industrial arts and trades. Graduates from these classes are admitted to scholarship in the finishing schools here.

We also have trades and mechanic arts taught as studies preparatory to the higher branches, on the well-approved principle that handicraft or mechanical experience is not only indispensable to the engineer, factory superintendent and operative, but an important aid in every form of industry, whether mechanical, inventive or farm labor. Chemistry and metallurgy are taught collaterally. The student worker in metals is instructed in the nature and chemical composition of the metals he handles, their reduction from their ores, combination with other metals, as well as the nature, property and uses of alloys.

'Then there is organic chemistry and its branches, such as agricultural chemistry, in which the composition of the soils cultivated, the fertilizers needed to insure good crops, etc., are ascertained in order to farm successfully. These and kindred studies, such as agriculture, horticulture, floriculture and botany are among the studies, as well as natural history. Political and domestic economy, history and mathematics, are among the higher branches taught, while ethics is one of the most important of our school studies, as it has its roots in the social life of our people. Electrical and mechanical engineering are among the branches most in favor with our students. Let us visit one of the school shops.'

We entered one of the electrical school laboratories. It contained a variety of machinery, work benches and apparatus of various kinds employed in the art. The machinery was in operation, and work of a commercial nature was being turned out by the students. Here, I was informed, many of the small electric generators and

motors used on road carriages, and for farm and household small powers, were constructed. Alcohol motors were also made here. I noted that the metal used for some of the parts of machines in process of manufacture was of a different kind from what I had been familiar with. On inquiry I was told that it was an alloy which was less liable to oxidation and much easier to work into shape than iron or steel. The young men at work in the laboratory were so earnest and intent on their occupation that they only glanced at the visitors, though the instructors saluted my guide with friendly deference. This, I was told, was one of the higher grade classes of the electrical school.

In all the rooms visited the students were industriously employed in their various lines of practical study. One of the rooms interested me greatly, chiefly on account of the peculiarity and complex nature of one of the operations carried on. The apparatus treated atmospheric air for the production of nitrates. The air was driven into an electric furnace through an intense flame, the portion unconsumed coming out charged with nitrous oxide fumes, which were collected, allowed further time to oxidize, and then absorbed in quick lime, nitric acid and nitrate of lime being the products. Nitrate of lime, I was told, was found of special adaptability to many soils, and was used quite largely on farms in the state. The small cost of production made it a cheap fertilizer.

‘The aim in this, as in all our higher schools,’ said my guide, ‘is to turn out, if possible, commercially useful products. Where anything produced, however, has not

a market value it is destroyed. If of metal, it is melted and used again, but this seldom has to be done. We will now visit another department of electrical work, where the manufacture of carpets, mattrasses, bed quilts and house-warmers is carried on.'

Wondering what the relation of such household things could have to electricity, I followed without comment or query. In this department I was shown several looms in operation weaving carpets and other coarse fabrics, the warps of which were composed in part of fine metallic threads, which I was told were made of a highly ductile alloy of great resistance. About every 20th thread of warp was of metal. The coarse filling woven in fully covered and concealed the metal threads.

'These,' said my guide, 'are what are known as electrical fabrics. You will note that in some of the looms the wires used are larger and placed further apart in the warp than in others, and that the filling threads are much, coarser. The fabrics in these looms are floor carpets rugs, and for mattras coverings for beds, for use in the cold season where a moderate heat is desired. The finer fabrics are employed for bed coverings, in conjunction with sheets and blankets; also as lounge covers, and for chair seat and back covers. They are in some cases employed as dado coverings, to promote the general warmth of living rooms, though in our sleeping rooms in the winter season we have a supply of fresh air warmed to about 45 degrees Fahrenheit by being admitted through electrically heated coils. In adapting these fabrics for use, the material is cut to the required length, and the

ends of the wires connected, so that the network makes a continuous line of greater or less resistance according to the size of the wire. This network of wire radiates the amount of heat called for, which can be regulated according to the requirements of the cold season. Of course the current is never applied in quantity sufficient to overheat the wire and produce combustion. To obtain heat from these fabrics they have to be connected with a current supply. In the summer season these fabrics are stored away until again called for. In summer we do not use any floor or wall coverings, as they collect dust and organic matter and are consequently injurious to health.'

' You said the studies in these schools embraced jurisprudence, therapeutics, surgery, etc., are these special or elective studies ?'

' Yes; but while they have a place in the general features of our educational system only those who desire to study them are required to do so, that is, with reference to professional ends. Surgery is a very important branch of study, and we have many young men who pursue it for a profession. All special studies in our schools are elective. This will account in a great measure for the evident ardor shown by students in special lines of work in these schools.'

' What if an undue number choose one particular line of study, such as electrical instead of foundry work or other trade ?' I asked.

' The number of students in any one of the special lines of study in the advanced classes is limited, and only

those who pass the highest examinations are accepted until the classes are filled. If a class is full, eligible applicants who are temporarily debarred have the choice of other lines, but are still eligible when there is room for them, which is not infrequent, because graduation depends upon merit and proficiency rather than upon the length of time of study, the more studious and efficient receiving their diplomas soonest. This has been found to be a great incentive to industry on the part of the pupil and spurs him to emulative effort. It at the same time holds out hope to expectants, who in the meantime adopt some analogous line of study, in which they may become interested and continue to study in it until graduation.'

'Then these art and professional schools are probationary or apprentice shops which graduate workmen or masters of the trades or professions which they have perfected themselves in,' I remarked.

'Yes,' he said. 'Our trades and occupations are no longer handicapped by the introduction of crude and unskilled labor. The graduate from our advanced classes in any trade or profession is a competent workman, engineer, artist or professional man, as the case may be, and is fitted to take the place and earn the compensation of an experienced worker in any line of industry for which he has fitted himself.'

'In the mental studies, such as mathematics, theology, psychology, etc., have your schools advanced classes?' I asked.

'As to mathematics,' said the patriarch, 'we regard it

as one of the most indispensable of the mental studies. A thorough course in it is taken by all pupils, especially to qualify as engineers. Indeed a knowledge of it is indispensable to all mechanics, inventors, and in fact to all who have to exercise correct judgment in the affairs of life. Moral philosophy is an important study, and even psychology has a place in the advanced mental grades, if indeed it can be classed with ordinary studies, it being one of the rarer intellectual pursuits more fitted for mature people who study mental phenomena; but as to theology, it is not taught or studied nowadays. It is a dead study, only resurrected for occasion by the philosopher.

'Mystical studies are not encouraged, for the reason that they lead to the formation of an unstable condition of mind in the immature, and tend to make men impractical in thought and action. Our knowledge of mental phenomena has been so broadened in the past eight or ten centuries that we no longer regard many and even most of the so-called phenomena of the old cults and religions as of supernatural significance, or that they are of higher origin than human invention. We can understand why the devotional instinct in human nature which sought to give expression to feelings of wonder and admiration of the vast, grand forces and mysterious processes of nature, and why men did not get beyond the idea of personifying them. But we have long since left such childish ideas behind in the road of progress; have realized that there is a vast universe about us, so vast as to be limitless, where formative and disintegrative processes are in never-ceasing action, creating worlds and

and sustaining them in their wondrous cycles of change, of growth and decay; and that our sun, great and beneficent as he is, is but one of the millions of dispensing agents of that vast universal energy, to place which in an individual control is the acme of absurdity.

‘We now know more definitely the immediate sources of vegetal and animal life on our planet, if not their actual origin. We also know that human knowledge has its limitations; but what knowledge we possess is sufficient to satisfy us that there is no reasonable hope of more than one term of existence for each individual man, as well as for any other animal, and that the part of wisdom is to live the life we have as happily as we can — a life which, in practice, should be productive of the best and most satisfactory results to the individual and to society.’

‘For these reasons, then,’ I remarked, ‘you do not see the necessity for teaching theological doctrines.’

‘We view the idea of a personal god as a crude and even childish conception of the all-power in nature. A triune god is an absurdity, a complex form of anthropomorphism, which is not as satisfactory to the thinking man as the abstract idea of an all-creative and all-potent principle in nature, but it was admirable as a befogging and awe-inspiring mystery to those cradled in the superstition of the ages. We can see that all the gods of the ancients originated in an imperfect conception of the creative principle of the universe. In the crudity of human knowledge the varied phenomena of nature were personified and given powers which seemed to belong to

such superhumans. The earth was then believed to be the centre of the universe and the sun, moon and stars simply attendants on it. How different the facts: Our earth is but one of the small children of the sun, not the smallest, but insignificant compared with some of those more distant from the sun. We now realize that the sun is our cosmical father, as the earth is our mother, and that he is, if not the creator, at least the promoter and sustainer of life on it. We realize, also that while we are dependant upon the sun for our being and sustenance, there is an illimitable universe of energy and matter of which he, vast though he be, is only one of the smaller dispensers, there being myriads of suns or centres of systems hundreds and even thousands of times larger than he is.

‘In this age we have no fixed form of worship, and our regard for the great central luminary of our system bears but little analogy to that of the early sun worshippers save that we, like them, recognize our dependence upon it for life and sustenance. Our highest conception of a personal god is embodied in the perfect man, such a one as the Christians worshipped in the Hebrew man Jesus, who represented to them the cardinal virtues: faith in humanity, love of fellow men, mercy and charity to the unfortunate and poverty-stricken, and hope of final brotherhood and happy conditions for all, which it is our highest and noblest ambition to realize. To accomplish this we cultivate respect for age, experience and achievement, truth, uprightness, honesty, fidelity, integrity, and indeed all the characteristics which we approve of or

most highly commend in others and aim to cultivate in ourselves.'

I was surprised at this revelation and could hardly realize that the grand fabric of supernaturalism, called Christianity, had dissolved or been relegated to the pantheon of the defunct religions. I remarked, however, that the old religions must have been fitted to the intellectual wants and moral conditions of the ages in which they prevailed, and that the comparative study of them had proved a useful means of enlarging human knowledge.

'That is true,' he said. 'All mental phenomena or prevailing conditions of thought and belief in the history of thinking man have had their uses in the line of progress. Their crudity was due to lack of knowledge, but each experience was provocative of thought, doubt, controversy and investigation, consequently of progress. Men stumbled for ages in the rough paths of experience, and knowledge came slowly and after great sacrifice. In other words, the structure of human knowledge was started in the quicksand of ignorance and superstition, and had to be rebuilt many times on firmer and more rational foundations. We have now arrived at a condition of comparative mental maturity, when the forms and ceremonies of the old religions are meaningless to us, if not absurd.'

'But,' I persisted, 'how could a god be conceived of apart from a personality?'

'He could not, and therein resided the strength of theology, especially when the great god allied himself to man in the flesh, became a creature of his own creation, as it

were. This ridiculous assumption, when accepted by the ignorant masses, was made the basis of a faith for which men suffered death and sanctified it. But science, with undaunted persistence and judicial logic, showed its utter fallacy, and slowly but surely the world became undeceived. It was the lack of knowledge of the facts in nature among the masses of the people which gave to the inventors of gods the opportunity to invest such myths with attributes and powers most esteemed and respected or feared in those days. These gods were as often worshipped from fear as from any other sentiment. The people asked for aid and assistance, little realizing that they were calling on things without ears and without power to help or to injure. Yet, strange to say, many of the suppliants, owing to fortuitous circumstances, realized their wishes and attributed the same to the favor or clemency of the gods—so credulous and trusting is human nature. On the other hand, when the prayers were not answered, the suppliant attributed it to his own unworthiness, and it no doubt increased his estimate of that god's discernment.

'The constructors of theologies did not realize that wisdom and intelligence were merely human attributes, derived from the varied conditions of man's existence. Even the pantheistic idea that the universe is god and god the universe was too broad for general comprehension in the god-making age. We now realize, however, whence the sustaining and doubtless the creative power in nature is derived. We know, also, as I have intimated, that even our highest intellectual achievement is but a

phase of human development under favoring conditions — nothing more.'

We passed through a number of other departments of study and work, all containing well-filled classes of young people busily intent on work and study.

'Where do all these young people find employment when they are graduated?' I asked.

'Wherever vacancies occur calling for their services,' replied the patriarch. 'The workers in our industries and other lines of effort are dropping out, that is, retiring all the time, leaving vacancies to be filled, and business of all kinds is increasing with the growth of population, calling for more workers. Our young graduates do not go forth with the idea that they can obtain situations of control and responsibility in any line of industry — nearly every calling with us nowadays is industrial. They know that they must begin modestly and work their way up, if they are aspiring, gaining promotion by merit, industry and opportunity. Work of some kind is always obtainable, and remuneration is fixed in every department of industry and effort, so that there no difficulty in earning a livelihood. Some follow trades, some professions and others agricultural pursuits. If there is not employment found in the lines most desired it may be had in other pursuits. Proficiency in any one of the arts or trades does not unfit the possessor for other occupations, and our all-around system of industrial school training enables the young graduate to be tolerably efficient in almost any line of effort.

'Of course a young man may choose to go elsewhere

to find employment, and some do; but there are the ties of family and friendship to bind him to home which are not to be lightly sundered. If, however, he does go out into the world and a new field of effort, as some do, he is usually well provided with means to pay his way until he secures a position to his liking. On graduation the town gives the student a sum of money equivalent to his earnings above student remuneration for one year prior to graduation, if his work had been productive of material gain to the commune; and if not, as in the case of purely mental or experimental studies, there is still given him a money consideration, the gratuity being proportioned to his accomplishment.'

'Does the town have a proprietary interest in all property and own and operate all industrial and educational institutions?' I asked.

'The commune, that is, the people in their collective capacity, own everything in the way of real estate, buildings, schools, public utilities, and own and operate all the industries. Personal property only is owned by individuals. Those occupying or holding buildings, farms and other public property pay rental therefor, which is covered into the town treasury, or rather deducted from the earnings of the occupants, all of whom are employed by or work for the town. The term of lease of farms and dwellings is perpetual, and proportioned to the size and importance of the holding; that is, they are secured the possession of their holdings as long as the rent is paid. If a family should desire to leave the town they can dispose of their lease to the town or to another family, their

successors occupying it under the same conditions as to the payment of rent and so forth,' said the patriarch.

'If a tenant should fail to pay rent, what would be the consequence to him?' I inquired.

'If such failure were the result of sickness, temporary disability or circumstances over which the family had no control, things of very rare occurrence indeed, the rent would be remitted for a year, or two years, if need be. But, as I said, such misfortunes can only be of extremely rare occurrence, for even if the head of a family is disabled the other adult members can work, and there is work and remuneration for all who can and will work. If, however,' continued the patriarch, 'there are only aged survivors of a family, and they have passed the age of retirement, which entitles them to a life pension, they are allowed to retain their home rent free, if they desire to do so, and do not wish to go to the town farm. If they should choose the latter, however, or in the event of death, their holdings revert to the town. In the case of small farmers, in seasons when the crops are a partial failure (there are no total failures with us) rebates of rents are made proportional to estimated losses.'

'How do your farmers dispose of their products?' I asked.

'The farmer,' he replied, 'reserves for his own use enough of the products of his farm to last him until the crops of the following year mature. His surplus, in poultry, eggs, meat, wool, hay, milk, butter, roots, fruit, corn and other cereals, he sells to the commune. We have in different sections of the town spacious warehouses in

which farm products of all kinds are kept for sale, either to our own people or abroad, these products being sold elsewhere only when there is an assured surplus over estimated home needs. For root crops underground cellars are reserved, where in dark, cool vaults they are kept until required for consumption. When the farmer turns in his surplus products, an order of payment for them by the town treasurer is given him. At the treasury his indebtedness for rent and bills at the town store are deducted, and the balance coming to him paid him in currency, or placed to his credit, as he desires.'

'Do farmers realize profitable returns for their industry?' I asked.

'Yes; in years of good crops they realize very generous returns. Besides an independent living they have a satisfactory surplus at the end of the year. None of them grows rich, however, any more than other workers. We are not mere money getters, and have no use for surplus wealth,' replied the patriarch.

'Does the commune build as well as own all the buildings?' I asked.

'Yes; and all the houses are built on a uniform system, though of different sizes and styles of architecture. There are some six or seven variations of these in the town,' he replied. 'The factories are built to accommodate the industries which are to be carried on in them. The dwellings vary in rental according to size and the amount of land that goes with each. The smallest cottage is built as carefully and substantially as the largest, and with as much care in regard to light, ventilation,

plumbing, and other hygienic details. They are all constructed to last for hundreds and perhaps thousands of years,' said the patriarch.

'Is the income from these houses, farms and factories sufficient to meet all the expenses of the commune?' I inquired.

'There is never a deficit,' he replied, 'for the business of the town is carefully and watchfully administered, but if there should be we have a surplus or reserve fund to fall back on. It has now grown to considerable proportions. If this became exhausted by any unforeseen contingency, a general advance in rentals would have to be resorted to. But I find no account of such an occurrence in the history of the town during the last three hundred years. On the contrary, there have been several instances where the yearly surplus income has been so considerable that a year of jubilee, or exemption from all or a large percentage of rent payment, has been known. The town, however, always maintains a large surplus, to be drawn upon for highway and other public improvements, and for contingencies.'

'Have you a town debt?' I asked, forgetting how unlikely it would be for a town with a large surplus in its treasury to be in debt.

He smiled indulgently and replied: 'No. In this age the communes (cities and towns) can not borrow on credit. They must and do live on their incomes, and it remains with those in charge of affairs to be prudent in expenditure and watchful of the interests intrusted to their management. But economy and a strictly honest

administration of business affairs have become so well-established in the public service that maladministration is practically unknown. Credit for ability and honesty is so highly esteemed by the people that failure in capacity or honesty would mean failure in life which no amount of gain could compensate for. This, though an age of individual independence, is not one of individual possession of great riches, consequently there is little incentive to and lasting disgrace in the acquirement of dishonest gain.'

'But,' I said, 'if a public servant should do wrong—should speculate in stocks and lose money that did not belong to him?'

'My friend,' he replied, 'you suppose a case of impossible occurrence. This is not an age of speculation of any kind. There are no corporations and consequently no stocks which are liable to fluctuation, or which can be manipulated by speculators, in order to cheat the unwary. The only available securities are government bonds, and these are only purchased for investment. There can be no fluctuation in these for their rate of interest does not vary.'

In the main building we visited the offices of the heads of departments. These men and their assistants had charge of all the industries of the commune, and other matters of administration. They contracted for the purchase of raw material for the factories, the sale of their products, the employment of operatives, and administered the industries and other town affairs as if they were their own individual concerns. The office doors bore such

signs as ‘Light and Power,’ ‘Farms and Dwellings,’ ‘Factories,’ ‘Schools,’ ‘Highways and Public Grounds,’ ‘Institutions,’ and so on.

The sign ‘Light and Power’ attracted my attention. What was the source of power from which the electric current was produced and which operated the factories? Was it coal? It could not be water, for water power, I knew, was limited in the town. I asked my guide where the town obtained its coal. He smiled and said:

‘The stored energy of the sun, in the forms of coal and mineral oil, were exhausted to such an extent about three hundred years ago as not to be available to us; but we obtain sufficient power for our needs from other sources. Did you not notice, when we were in the cupola of this building that the various hills and other eminences within view were crowned with numbers of small circular structures, on the roofs of which and projecting from them were large flattened funnels, backed by fish-tail vanes?’

‘I did notice them,’ I said, ‘and intended to ask you later about them.’

‘In these little buildings,’ he continued, ‘our most available form of power is employed to produce electricity. The winds, which are now our chief source of power, are utilized in these buildings to operate motors to produce electricity. We have only a limited amount of water for power in the town—a form of power, like the wind, which is derived from sun energy—and have also sun motors, but of course they are operative only on cloudless days.

‘One of the most important discoveries yet made in the

matter of power production is that involved in the conversion of the sun's energy directly into electricity. This, I learn, has been accomplished by a North African scientist after many years of experiment, and he is now, it is said, engaged in the work of reclaiming the deserts of that region by sinking artesian wells and drawing water from them to irrigate and cultivate those waste places by sun-electric motors. Engines of this character may thus become instrumental in reclaiming the barren and arid places of the earth, and the electric current thus produced a most important factor in the future industrial life of the world. I understand that there has been published an illustrated technical description of this invention, that is to be sent out by the Smithsonian Institution, which we are awaiting with eager hopefulness.

'By the new system it is estimated that every house-top can be utilized to place a converter that will produce current enough in the summer season, and even in winter, to be stored for heating, lighting and domestic purposes the year round. Instead of having the storage plants of factories and dwellings charged from the public generating stations the possessors of the sun dynamos or converters can, by their aid, store enough sun energy to largely and perhaps wholly serve their wants. There will be cloudy days, to be sure, as well as windless ones, but enough sunshine as well as wind will be assured to the world, where water power is not available, to furnish all the power, heat and light needed. Under prevailing conditions, we have to supplement our wind and water power with alcohol. But for general purposes these sun-

power dynamos must have a great and beneficial influence upon earth conditions, especially in regions where sunshine predominates. We can have but little conception of the vast amount of energy there is in the sun's rays and what an exhaustless source of power we have in it to draw from.'

I intimated that I would like to inspect the wind engines, but at that moment the noon signal was sounded by megaphone from the cupola of the town mansion, and the patriarch said we must return home, as by this time his wife would be waiting for him. We found the matron expecting us.

'After luncheon and siesta,' said the patriarch, 'we will visit the wind engines.'

On the way to the Wellman home I noticed that the streets were again filled with carriages of all descriptions moving hither and thither, and the walks crowded with pedestrians.

'They are going to their homes for luncheon,' said Mr. W. 'That meal is followed by a siesta or resting spell, and then back again to work or business or study, as the case may be, for three hours more. The hours for labor and study for adults are six a day, three in the forenoon and three in the afternoon, or one fourth of the entire day. Farmers in the busy season, of course, work longer hours, but there are days and seasons when they cannot work out of doors. Even with this extra work in the summer season they do not average more hours per day the year round than the workers in factories do. In their busy season, too, they can employ, out of working hours,

those who may choose to work a couple of hours or more before or after factory hours.'

'Are the hours of labor, then,' I asked, 'generally reduced to six a day?'

'That is the general rule everywhere. These are some of the reasons for fixing the standard at six hours for a day's work: In the first place, as everybody works or studies, all the work and study needed to be done can be accomplished in that time. In our primary schools only four hours attendance is required, two in the forenoon and two in the afternoon. This system of work and study for adults and children gives results that are satisfactory, allowing enough time for amusement, healthful recreation and rest for old and young. We are not ambitious to accumulate an undue amount of products and riches at the expense of health and comfort. Health and enjoyment with us are paramount.'

'Have you many very rich people, millionaires?' I inquired.

'We know of very rich men only in history,' he said. 'In these days of equality of opportunity and reward rich men, not to mention millionaires, are an impossibility. Men have so greatly multiplied that to make one millionaire in a town it would be necessary to impoverish thousands—a thing impossible under present conditions. The colossal fortunes acquired in the early days of the Republic, when opportunity went hand in hand with the early development of a new country under the old wage system, melted many hundreds of years ago, and only an average well-to-do class of working people succeeds to

the inheritance of the earth. According to prevailing custom or usage, which has the effect of law nowadays, no man can bequeath at his death more than fifty thousand dollars to his heirs in bonds and money. If he dies worth a hundred thousand—a very rare thing indeed—one half the amount goes to the commune. There is, as you can see, no incentive for even a man of miserly habit to accumulate largely. All men, whether well-to-do or comparatively poor, do work of some kind; the poorest make a comfortable living, enjoy life as well as those who are better off, and are content with their condition. Contentment is on the highway to happiness, you know.'

'Are all compelled to do work?' I asked.

'Not in the sense that they are driven to work, like slaves. They are brought up to habits of industry, and realize that in labor or occupation of some kind there is to be found health of body and contentment of mind. Occupation of some kind, therefore, becomes congenial to all. Of course people with ample means can live without labor. They can travel if they choose, but few care to spend a life in ease when the world about them is busy. Besides,' said the patriarch, 'public opinion, which is most potent in this age, strongly condemns an aimless and idle life. Of course the great mass of the people have to labor from necessity—a grand stimulant, by the way—but their hours of labor are not long, their work not exhausting, their compensation ample, and they have abundant leisure for study, amusement and recreation. They and their families can attend interesting and informing lectures, concerts, and other places of amusement

free of charge, as the commune provides these things out of its own resources.'

I was surprised at the last statement, but before I could ask another question we arrived at the Wellman home. The patriarch's son (my traveling companion), his son and grandson, and the women of the family, were grouped in front of the house to receive us. The male members were at leisure, as no business was done from noon to 2 p.m., or rather 14 o'clock, and included the siesta. The greetings of the family were cordial and pleasant, and the boy, after he had kissed his great-grand-parents, came over to me, put his arms around my neck and kissed me—bless him! We now entered the house and, after ablutions, assembled in the dining room.

'I have today, Mr. Wonder, what may be a novelty in the way of cooking for you and hope you will enjoy it,' said Mrs. Wellman. 'It is a fowl which has been cooked by the direct rays of the sun in our solar range. This form of cooking is done only on clear days.'

I thanked her for the privilege of this enjoyment; indeed it seemed as if the fine roast capon had a new and more appetizing flavor in consequence of the new mode of cooking. When I expressed myself to that effect, a pleased smile lighted the good woman's countenance; she said:

'Do you know I have the same fancy in regard to this form of cookery, and though I feel that perhaps the imagination may have something to do with this idea, I am yet in doubt if it be not a fact of the palate rather than a fancy. Our ordinary electric heat is, we know,

only another form of sun energy, yet it would seem as if the more direct rays had a purer virtue in them than they could have after several transformations.'

The meal was most enjoyable, due as much to the excellence of the viands as to the pleasant and agreeable conversation, in which I took part. At the close of the meal I expressed a desire to see the solar cooker, which was graciously granted by my hostess, who guided me to a piazza on the south side of the house and showed me a portable range or cooker, of light construction, coated on the outside with a covering of asbestos, and with an oven door of mica plates. Above this were arranged a series of convex lenses focused through pipe openings on metal plates inside the oven, which could be in this way heated to the desired temperature for cooking. The lenses, when the range was adjusted to the desired concentration, were maintained in focus by a clockwork movement, something like that used for siderial telescopes to make them follow the movement of the sun, or rather of the earth as against it.

'We use this cooker constantly when the sun shines,' said my hostess, 'summer and winter. In stormy weather we keep it under cover. It is no more trouble to operate than an electric range.'

'Are these solar cookers in general use?' I asked.

'Yes, quite generally; all who desire them can have them. They cost the user nothing except a small yearly rental, as with electric ranges, only the latter are more costly to operate as we have to pay for electric current,' she said.

As we returned to the sitting room she added: 'If you are curious about it, I would be pleased to show you my kitchen and storerooms, when you have the time to see them.'

I thanked her, said I would be delighted to see them, and we rejoined the family group on the veranda, where, with hammocks swung and reclining chairs arranged, all was prepared for a short season of rest and quiet. All reclined. My host, in the course of conversation, asked if I used tobacco. I replied that I did not use the weed in any form.

'I am glad of it,' said the patriarch. 'The habit of smoking is a filthy one, disagreeable to all but users, and which it is nearly impossible to suppress, though users of the weed are comparatively few today. No one smokes in the streets or when at work, and children are now carefully guarded against acquiring the pernicious habit. With us now smoking can only be indulged in in the open air, on private holdings. The chewing habit is practically extinct.'

'Are wines and liquors sold in your town?' I asked.

'Alcoholic drinks, except a very light wine and a mild malt liquor, are unknown to our people as beverages. Alcohol is made in great quantities for power purposes, but it is so treated in the manufacture that it is not fit to drink, and nobody thinks of it in that connection because it is known to be a virulent poison. Wine is sometimes used in sickness, and beer with less than two per cent. of alcohol is drank mostly in warm weather, other and and more wholesome non-alcoholic drinks being common

beverages and sold for one cent a glass. Brandy, rum and whiskey are regarded as strictly medicinal preparations and can be obtained only in limited quantities on physicians' prescriptions. The habit of alcohol drinking, I am happy to say, has practically disappeared from the world, and with it all the attendant misery and wretchedness of human life.'

For about an hour we rested and shared in the general quietude. Then there was an awakening and evidences of bustle and activity on every hand. Carriages and cars began running on the highways, and people on foot crowded the walks. Mr. Wellman and his son promptly started for their stations in the store, and the women went about their household duties. The matron told us that she would not accompany us on our afternoon excursion, but said she would go with us on the morrow, as she desired to show me what the women of the thirtieth century were doing in the service and the well-being of society.

'While we have equal rights with the other sex,' she explained, 'our work and duties vary somewhat from theirs, as you shall learn. We do not aim to do all the kinds of work that men do; why should we when we have work and opportunity enough to do our part in lines and ways more congenial to our tastes, in our own exclusive sphere, so to speak, which is comprehensive enough to give the more leisurely of us full employment and what is more to the point a vast amount of genuine satisfaction?'

## CHAPTER III.

A TILT AT WINDMILLS, AND OTHER THINGS OF GENERAL  
INTEREST TO THE INQUIRER.

When we were seated in the carriage and under way I asked the patriarch what his wife meant by the term ‘equal rights.’

‘I presume she meant what the words implied,’ he responded. ‘Women are now the equals of men as citizens in all respects. They vote at elections, hold public offices, control their own personal property, as men do, sit on juries (not mixed ones, however, but with persons of their own sex, where women are on trial,) and are also eligible for election to any office in the town, county and state, and even for federal positions. They can practise law, medicine and surgery, and indeed can follow any occupation they may choose, though after marriage they seldom engage in any occupation that would interfere with their domestic duties, for home and family are paramount in woman’s life.’

This was a surprise to me, but I concluded that to the influence of women in public affairs was perhaps largely due the abolition of liquor selling and the sentiment opposed to the use of tobacco, as women are the greatest sufferers from the vices that accompany their use. I had noticed the absence of horses on the highways and fields and now inquired the cause.

‘Horses,’ he replied, ‘are rarely used nowadays. They are not allowed on highways harnessed to vehicles, nor

saddled for riding purposes. If taken over the highways they must be led, for they are liable to be frightened at the appearance and noise of motor vehicles. They are sometimes employed in the cultivation of small farms as well as large ones like those carried on for the town, but only in certain lines of labor, power-operated machines doing nearly all kinds of farm work. It is found that even on small farms horse labor costs more than mechanical power to do farm work, and then there is the constant care in feeding and looking after the animals; but men naturally like horses, inheriting this affection from horse-owning and horse-loving ancestors. Neats cattle, sheep, hogs, and poultry comprise our domestic animals, all of which are more or less useful.'

'Alas,' I mentally said, 'has the day of sentiment also been left behind in this utilitarian age when that noblest and gentlest and faithfulest of man's servants, the horse, is replaced by a man-created machine!' Then, aloud, 'I regret the absence of this noble animal. Why should he be replaced by a mere machine?'

'It is his fate in the process of evolution,' returned the old man.

'I notice, also,' I said, 'the absence of dogs and cats in your town. I do not see them on the streets or about the houses, and have not heard a dog bark since I came to town. Have you no dogs or cats?'

'We have no use for either dogs or cats. They have been eliminated with most of the wild animals. Even rats and mice have been exterminated, and are no longer a pest to farm and household. Electrical contrivances

have destroyed them as well as most insect pests, such as mosquitoes, house flies, bugs, and caterpillars which prey on vegetation.'

We had now reached the summit of one of the hills on which were a number of wind engines. These, as I had been told, I found were contained in small circular buildings. The funnels on the roofs were wide-mouthed and narrowed at their junction with them. The vanes on the structures were large enough to not only keep the funnel mouths to the direction of the wind but to rotate the entire structures when the wind changed. I found, on examining one of the houses, that this was not as difficult a thing to accomplish as would appear at first sight ; the building, made of sheet metal, rested upon double ball bearings, such as were in general use on power shafting, axles, and on railways, as I had already noted.

Entering one of the buildings, I found what appeared to be a large overshot water-wheel. I noticed that the buckets on it were bulging or curved on the upper side, so as to hold a larger filling of air, and that the throat of the funnel lapped over the sides of the wheel like a hood, so that little air could escape before acting on the buckets to turn it. The buckets and rim of the wheel were made of aluminum, and the shaft and radial arms and framework of an alloy of that metal and iron. The wheel was a light affair considering its size. A strong metal frame supported the wheel shaft, geared to which were generators, arranged so as to be operated for current production in proportion to the force of the moving air, and were automatically switched in or out of operation according

to the force of the wind. The current thus produced was transmitted to storage cells located in various parts of the town, at central stations, near factories, the town mansion, the small villages, etc. The chemical energy stored in these batteries was maintained at normal load by wind power, except in seasons of calm, when power plants, operated by alcohol motors, were always ready to supply the deficiency. There were several hundred of these wind engines in the town, perched by dozens on all the eminences. They were automatic in operation, requiring inspection only about once a week.

'The conducting wires leading from these generators are carried in underground conduits to their various connections,' said the patriarch. 'And this reminds me that I must show you one of the subways of our town, into which the conduits lead. The subways are, of course, employed for more purposes than that of carrying electric wires, as I shall explain when we visit one. It is now time to return.'

On the way back we were silent long enough for me to observe the general neatness, order and good taste which pervaded the surroundings of the dwellings passed. It was a pleasure to contemplate the highly cultivated gardens and fields. I noticed that the orchards contained only well-trained and thrifty fruit trees, already promising a plentiful yield. The houses, substantially built, embraced varying features of architectural design and good taste. I again noted that the walls and roofs appeared to be composed of the same material, and spoke of it to the patriarch, who said:

'After we have visited the schools and some other points of interest I will take you to see a new house in process of construction, and explain the methods and materials employed. As to styles, you can see how they vary. Our architects are all the time improving plans or adding new features. All plans of new buildings are submitted to the searching scrutiny of sanitary engineers, and must be indorsed by at least one of them before they are adopted. The architects, builders, plumbers and mechanics are all employed and paid by the commune.'

We had by this time arrived at the Wellman residence. It was at a time when the people had finished their day's labors. The schools had been dismissed earlier, and the children, full of life and good nature, playful and romping, were on their way home after a season of recreation in the school gymnasiums, after school was out. The road carriages and cars were well filled with people, all well dressed and apparently cheerful, laughing, chatting and even singing in many instances, as if just returning from a holiday picnic instead of from labor. Here, I thought, was good evidence that people under this new system of co-operative labor obtained a great measure of enjoyment from life; that, at least, their labors did not exhaust their energies or depress their spirits.

'These people,' said the patriarch, 'are going to the town mansion, where the gymnasiums, concert halls, lecture rooms, theatres and museum will entertain them for an hour or so, for we do not at this season of the year extend our amusement hours into the night. If you so desire, my son will take you to the town mansion and

let you see how our people are amused and instructed on week days.'

I gladly availed myself of the offer. Mr. Wellman, second, took his place by my side at the steering wheel, and we soon bowled up to the town mansion, where we found crowds of people of all ages and of both sexes. We first looked in at the gymnasiums, which were filled with young people. One was for men and the other for women, and I was greatly interested in the work of both. The performances were very creditable, and many of the feats I witnessed would do credit to professional acrobats or athletes. All feats gave evidence of great strength and wonderful agility. The young people taking part in the exercises were models of manly and womanly development, as well as of robust health. I remarked on this to Mr. Wellman, and he said :

' Why shouldn't they be healthy and strong? From infancy they are well fed, trained to athletic pastimes, taught to breathe only pure air amid sanitary surroundings, brought up to industrial habits, to cultivate their minds as well as their dispositions, and to live a life of usefulness and temperate enjoyment, all of which are conducive to the best development of body and mind.'

We next visited the concert hall. A symphony was being performed. The music was superb, but no performers were visible. I was puzzled at this, and asked where the orchestra was located. I was informed that there was no orchestra, that the music was not produced from musical instruments but was formed from electrical waves impinging upon diaphragms of telephone trans-

mitters, the impulses being automatically made in keyboard instruments. The scope of these instruments, it was claimed, was very comprehensive, the electrical vibrations being so much more rapid than those mechanically produced gave to the notes a fuller expression and to the music a richer harmony. This electrical music, I was told, could be and was transmitted to many different places by wire at the same time. He called my attention to a large telephone receiver and megaphone on the stage, from which came the music of the symphony in delightful harmony.

A vocal concert, which we did not wait for, succeeded. We now went to the lecture hall, a spacious auditorium, which was well filled with people of both sexes. The lecturer was a woman of mature age, with expressive face and bright eyes. Her voice was at once musical and impressive. Her gestures were few but expressive. Her theme was ethical. Here are some of her sayings as I recall them:

‘Happiness,’ she began, ‘is a temperament, and depends very little on external influences. If one has no pain, has food enough to prevent hunger, with clothes and habitation to protect from the elements, he has the essentials of happiness, so far as physical things go. His happiness then depends upon his inner state. No man can be happy with a guilty conscience. No man can be happy who is filled with forebodings of the future. No man can be happy with a fretful, morbid disposition. No man can be happy who is actuated by jealousy, or envy, or egotism. The only hope of happiness is to live right,

morally, physically and mentally. A man may have a clear conscience and yet be actuated by a great many mistaken notions, and thus make himself and others very unhappy. The only real religion is charity and love. Charity does not find fault, but seeks to find good in everything. A person who sets out to find good will find it, and with it will find a degree of happiness. A person who sets out in this world to find evil will find it, and with it he will find wretchedness. The secret of happiness is to accept our lot in life and make the best of it. Patience, contentment, charity for others, interest in the world about us, these are the conditions of happiness. Do not discuss matters unless it can be done in the best of humor. Do not always assume that you are right and other people wrong. If you wish to talk such matters over with them, do it fairly, do it courteously. Treat them as if they were your equals. Compare notes with them. The chances are you will learn something for your benefit. But even if it should happen that you are all right and they are all wrong, you will be much more likely to do them good if you assume no superiority over them. Spend no time in regrets. Do not be afraid of the future. Hold fast to the conviction that right will finally triumph. Never lose sight of the fact that the greatest of earthly treasures is a clear conscience and a contented mind.'

I noticed that young people of both sexes, in about equal numbers, composed the bulk of the audience in this lecture room, and it was pleasing to note their expressed approval of the good precepts embodied in the discourse.

The next speaker was a venerable man. His discourse also related to human conduct. Among the the things he said I recall these:

'The most damaging heresy in existence is a chronic disbelief in human nature. People are naturally inclined to do right if left to themselves. People are apt to do wrong when they are hindered, obstructed, belittled. It is just as natural for people to become domestic and settle down as it is for birds to mate, or fishes to swim. It seldom requires force to make people do right. It never requires force to guide the masses. Now and then a man breaks over the restrictions of public opinion, or turns aside from the course of life that human instinct naturally dictates. Even when such exceptional cases occur it will be found that some physical derangement or mental aberration is the cause of it. Most of the law-making of the past was due to disbelief in human nature. The average politician in the days of political dominance had made himself and a few others believe that the masses needed regulating; that they must be told how to do this and how to do that; that it must be specified to them what they might do and what they might not do; that if people were not directed and controlled by the strong arm of the law everything would fall into confusion. This was long ago proved to be a fallacy. Intelligence, self-respect and right living among the people have made regulative and restrictive laws largely inoperative, as having little or nothing to do with the life of the people.'

At this point in the discourse we left the hall, and visited the theatre. The play, curiously enough, was an

adaptation of the 'Old Homestead,' 'a very old and popular drama,' as Mr. W. characterized it. The audience had a large sprinkling of old and middle-aged people in it. The scene we witnessed was well rendered and heartily enjoyed.

'Old and middle-aged people,' remarked Mr. W., 'seem to enjoy lively plays best, such as comedies and farces, while the younger people prefer melodrama and vaudeville entertainments. Tragedies are thought to have a bad influence on the young and are therefore not in favor.'

When the scene which was on when we entered was concluded, Mr. W. suggested that we go into the hall adjoining and witness feats of legerdemain and illusion. In this hall we found mostly young people and some older children. Here we witnessed many clever tricks, and some fine biograph scenes said to have been taken hundreds of years before, which were greatly enjoyed by the audience.

'These pictures of actual life-scenes of centuries past,' said Mr. W., 'are to my mind among the most wonderful and affecting records of those bygone days that we have. They are thoroughly realistic, and it seems almost miraculous to have in this way actual scenes in public and in domestic life of a remote age thus faithfully reproduced.'

We now returned to our carriage, and arrived at the Wellman residence in season for the evening meal, which was, as usual, a cheerful and enjoyable affair, the viands and conversation being excellent. I described to the

family my impressions of the things I had seen and heard during the day, and asked, among other questions, how Sunday was observed.

‘Sunday,’ said the patriarch, (he usually answered my questions, when present, the others deferring to him,) ‘Sunday is a day of rest from labor and of enjoyment for the people. It is to all a real Sun day—a day of gladness, in honor of the parent luminary after which it is named. But there are no set rules for its observance beyond a general cessation from labor, and people choose ways of observing the day that best suit their tastes and inclinations. Indeed all our pastimes and recreations are regulated in this manner. If a person or family elect to stay at home, they do so without remark or criticism being made. It is their own affair and no one else’s. The gymnasium is in full operation, as are also the concert halls, theatres, lecture rooms, and other places of amusement and instruction. Any one can go to any or all of them, admission being free to all.

‘Then Sunday amusements do not differ from those of week days,’ I observed.

‘Not materially, only there are more of them,’ he replied.

‘But have you no special religious services appropriate for the day?’ I queried.

‘No; why should we? We have moral lectures on that day as well as every day in the week for all who desire to attend and listen to them. Are they not more truly religious than the merely theatrical forms of Pagan or of Christian worship? What better religious

services do we need for Sunday than the inculcation of sound practical morals? And this service is maintained every day in the week as well as on Sunday. These lectures are not intermittent but continuous, as they should be, in order to meet the requirements of the people for moral and mental stimulation, to incite them to continue the practice of good and wise conduct.'

'Do the lecturers, actors, singers, musicians and other public entertainers receive compensation for their services?' I asked.

'These entertainers are our own people, and have their homes with us. They devote their time and talents to the work for which they have fitted themselves. They are paid by the commune for their services as mechanics, laborers, teachers and professors are. I do not mean that all workers are given an equal rate of compensation, but according to an equitable estimation of the value of their services. As a matter of fact, there is very little difference between the lowest and highest rates of compensation for workers, as all are intelligent, capable and faithful in the discharge of their duties. In the gymnasiums, only the instructors are paid.

'I notice,' he continued, 'that the idea of the commune doing all this is new and perhaps surprising to you, but a little reflection will show you how feasible it is as well as wise. Our industries are varied and yield us an income greater than our outlay for raw material and labor. Our income from rentals of houses and lands pays not only all town expenditures for highways, lighting and heating, but for administration of its affairs. At the end

of the year we usually have a handsome surplus to the credit of the commune. But perhaps it would be clearer to your understanding if I told you that all income, from whatever source, goes into the town treasury, out of which all indebtedness is liquidated, and at the end of the year the accounts show the year's receipts for products, the outlay for wages, etc., and the profits. If it is found that the surplus over expenses and providing for the sinking fund, is large, rents are reduced for the ensuing year or rates of compensation increased to an extent that seems justified. If there should be a deficit rents would have to be increased. But in my day there has never been a deficit, though on several occasions there were handsome surpluses. You can see, therefore, that we are practically our own landlords, our own employers, our own instructors and amusers, are thoroughly independent and, I may add, interdependant. In a word, we are simply co-operative.'

'What is your form of town government?' I asked.

'As to local affairs, we govern after the manner of the original New England town government or rather regulation, for, in the original sense of that term, we are not governed,' he replied.

'You have, of course, statutory laws,' I suggested.

'Yes; we have laws on the statute books, but most of them are practically inoperative. Laws were made to keep men in order, to make them act justly toward one another. If they do thus and are orderly, there will be no violation. No one apprehends any trouble from penalties he does not incur. Bonds and written contracts

between individuals are unknown, the word or promise of persons taking an obligation being binding in matters of contract. Of course it is different in dealing with the commune. Leases are given with lands and dwellings, receipts for rents paid the town and for labor rendered it are given. All laws passed by the state affecting our local affairs are subject to our acceptance by vote in town meeting. They are usually passed, however, in response to our call for such enactments, but, even when passed, if they do not suit us, or rather a majority of the voters, they do not become operative. This is our right, but as a matter of fact, we do not now call, and have not for many years called, for any laws. We can make our own local regulations, as we have the right to do, and enforce them. We do not interfere with the regulations of other communes, and theirs do not conflict with ours. No confusion or contention, you see, can result from so simple a system. The individual is the political, industrial and social unit of the town as the town is of the state. We are intensely democratic in family, town and state affairs, and while thoroughly co-operative and communistic, do not surrender our individuality.'

'How are your town officers chosen, and how long is their tenure of office?' I asked.

'Two qualifications for holding any public office are required—fitness and merit. This is our system: Every ten years a town council is chosen by ballot in town meetings held in the different precincts. This body is composed of six men and six women, who jointly choose a chairman or moderator. This council has the power

to appoint all town officers and heads of departments, which includes superintendents of industries, masters of advanced and primary schools, teachers, male and female physicians and surgeons, storekeepers, superintendents of power and lighting, patrolmen for regulation of highway traffic, who are located in the different precincts, two in each, one for day and one for night service, and a superintendent of the town farm, as well as town treasurer. The patrolmen are provided with light runabout wagons.

'The heads of departments,' continued Mr. W., 'are rarely changed, unless they have reached the age of retirement, 65 years. These heads appoint their clerks and assistants, who are retained during efficiency. The town treasurer is usually re-elected from year to year. He is the only town officer under bond, but this is more a matter of form than of security nowadays. His duties are to receive all moneys due the town, and pay all claims for services and other matters of expenditure. His accounts are audited every week by three auditors, also appointed by the council, the money and other assets on hand counted, and a report of the same returned to the council.'

'I suppose your sinking fund is invested,' I said.

'It is. Government bonds bearing one and a half per cent. interest per annum are readily procurable through the post office department, and are redeemable at the post office banks at any time,' he said.

'How do people borrow money, and what rate of interest is usually paid?' I asked.

‘As business is now carried on, no one is compelled to borrow, unless through some extraordinary need. Earn and pay as you go is the general rule. The prudent, therefore, are never in need, and generally have something ahead. Indeed nearly every one has more or less money laid up, for thrift and saving are the rule. There is no need of borrowing while people have their health and are willing to work. If they become sick, meet with misfortune and run out of means the commune will remit their rent, and if in want it will relieve them without charge. A superintendent of relief of the needy is appointed, whose duty it is to look into all such cases and provide medical and other forms of relief. In our experience those usually needing relief are the victims of accident. Beyond such cases his duties rarely call him,’ replied Mr. W.

‘I suppose you have courts of law for the punishment of crime and the enforcement of contracts,’ I said.

‘In regard to the enforcement of contracts,’ he said, ‘the courts are very rarely appealed to. Should a case come up, the judge or magistrate has the contestants cited before him. He listens to their stories and the evidence of witnesses, and in a brotherly spirit indicates a way of and advises a settlement. Criminal cases must be tried.’

‘By jury?’ I asked.

‘Yes, in cases of homicide, aggravated assault, felony, and other statutory crimes; but such violations are very rare. Indeed we seldom hear of them,’ he said.

‘Are such trials reported in the newspapers?’ I asked.

'Not in detail,' he replied. 'This is especially true in cases involving brutality. We are careful not to corrupt the minds of our youth by publishing details of crimes that must be horrible and disgusting to all pure-minded persons.'

'How are capital crimes punished?' I asked.

'By life imprisonment, at hard labor. There is no such procedure as the taking of human life under our laws. Confinement, isolation from the world, is the lot of confirmed criminals. We place them where their labor, if they are in good health, will at least support them, and where they will have no opportunity to do further mischief. But cases of this nature are now exceedingly rare, and are becoming more so as the years pass. We take the most careful precautions against such crimes by teaching children that love, mercy, truth, honesty, honor and charity are among the best virtues which make for human happiness, as industry does for independence and comfort in life.'

'We begin with them when they are young,' said Mr. W., 'and instil into their minds the sentiments which tend to the formation of right habits of thought and action, which we promote by example as well as by precept, and when they grow up these habits will have been so woven into their characters that they will not depart from them in practice.'

'It has been shown by ample observation and experience,' pursued Mr. W., 'that traits of moral uprightness and evenness of temper and disposition in parents become hereditary in children. It is likewise a demonstrated

fact that we transmit, with certain modifications, our mental and moral as well as our physical characteristics or peculiarities to our descendants. Indeed, in the line of descent, or evolution, we are the inheritors of many of the dominant traits of our forefathers and foremothers, from the days of human savagery to the present day, and though many of their bad or brutal qualities may be latent in our natures they are not likely to be developed except under favoring influences, such as contact with criminal or abandoned characters, while right teaching and good influences will practically counteract them to such a degree that in time they cease to be impelling tendencies. We therefore make due allowance for the influence of heredity on individual character, and when we find children of erring parents in our schools we give them more care and watchful consideration than we do those whose parents are of better nature.'

Here was suggestive reasoning, and the more I considered it the stronger was I impressed with the wisdom of this method to secure morality in the individual by beginning in infancy to mould the man. It was Soloman's method.

The conversation now took another turn; the happenings of the day and matters of general interest to the family were discussed. In these, however, I could take no active part, as my position was that of a stranger, who could only ask for information.

When the hour for retiring came, I was saluted by the entire family with pleasant words and kindly wishes for a sound and healthful sleep, which I have no doubt had

a grateful and soothing influence on me, for when I laid down a calm slumber at once fell on me, and I lost consciousness of the flight of time until I awakened into the brightness of a clear summer morning. Hastily dressing, I descended in season to find the family gathered on the veranda and taking part in the simple devotion of the day, the patriarch leading.

The family now assembled for breakfast. I casually remarked to my hostess that she and her daughter must be very early risers to have the meal prepared at such an hour. She smiled and said:

‘We prepare our breakfast viands ready for cooking over night and place them in the electric oven. When the proper time comes, that is, the time for its action, the heating or rather cooking current is turned on automatically. Notice of this is given by the ringing of a bell in our chamber, and by the time we have made our toilet and taken part in the morning service the viands are cooked and the chocolate made. All that we then have to do is to place the food on the tables, the work of only a few minutes, and the meal is ready.’

I now noticed that the table ware, while having a fine china finish and artistic decoration, was neither china nor crockery ware, and remarked about this peculiarity.

‘These dishes are of metal, covered with enamel. They are unbreakable, and have entirely superseded china and crockery ware,’ said the patriarch. ‘We will visit the factory where these dishes are made when I take you to see our industries.’

Breakfast over, we went to the sitting room, where the

morning papers awaited us. I now observed, for the first time, that there were some local publications there. I took up one of these which, at first glance, seemed to be statistical in character, but on examination I soon became interested in its contents. This publication contained a list of the schools of the town, the names of the principals, teachers and pupils in each, the daily attendance, and a list of absentees of the past week. Then came a list of the factories, names of superintendents and workers; their attendance, and a record of the absence of some of the workers and the reasons therefor. The same enumeration of all other educational, industrial and civic organizations in the town was also recorded in the paper, which likewise contained lists of births, marriages, deaths and reports of local happenings during the previous week. On the last page was a tabulation of the contents of the paper, where at a glance the educational, industrial and, to a certain extent, the social condition of the town could be connoted. I learned, on inquiry, that these weekly bulletins were supplemented at the end of each year by a compilation of the educational and industrial statistics contained in them, furnishing a complete record of the affairs of the town for the year.

I asked if the same system of record prevailed in all the towns of the country, and was informed that it did, and that at the end of each year all these yearly records were gathered by the state librarian, and while being given a place in the state archives were also condensed into a single large volume, which was sent to the state libraries of all the states and the national library at

Washington. The statistics, I may add, also gave the values of the products of the industries, so that the volume of the business of the towns and states was comprised in these yearly compends.

Noticing that the deaths recorded for the past week were very few in proportion to the population of the town, and they were altogether of aged people, varying from 90 to over 100 years, I expressed astonishment at the fact. ‘Is there no infant mortality?’ I asked, and was told that there was rarely a death among children and young people, except from accident. Children’s diseases as in my day were unknown. There were now no such diseases as measles, scarlet fever, whooping cough, and such like ailments to contend with. There was no small-pox, no typhoid fever. Women sometimes died during childbirth, but this was of rare occurrence.

This was all new to me, and while on the subject of necrology I inquired about funerals, modes of sepulture, mourning customs, etc., and was told that practically there were no funerals such as were customary in the early days of the Republic, and that while there was mourning among relatives and friends, it was not manifested by outward show.

‘We have no places of burial,’ said the patriarch. ‘When death is assured the body is incinerated, the ashes being disposed of as the relatives desire, though as a rule they are consigned to earth. There are two crematories in the town, one operated by the direct heat of the sun and the other by the electric current—so that the same energy which fed and fostered the body through its life,

when no longer animated takes it back to its embrace, and thus the cycle of human existence is completed. There are no funeral rites beyond the gathering of mourning relatives and friends, and a brief address by the head of the family, after which the body is taken to the crematory and disposed of.'

My hostess, Mrs. Wellman, now came into the room and said to me: 'I planned to show you my kitchen yesterday, but you were so busily engaged up to the evening that I did not have an opportunity of doing so. Now, sir, if you will come with me I shall be pleased to give you a view of it.'

I responded with alacrity, for I was curious from what I had already heard of it and tasted of its output to learn more of the details of this department. On our passage through the dining room I missed the small dining tables. She saw me looking about for them, and said:

'I see you miss the dining tables,' and opening a sliding door she ushered me into a large and well-lighted apartment—the kitchen. Here were the missing tables, ranged in a row, and I at once comprehended a new utility for them. They could be wheeled into the kitchen after each meal, and when a meal was to be served the prepared dishes were placed on them and they were again wheeled into place in the dining room. No empty dishes or dishes with food to carry back and forth, and thus so much of drudgery averted.

In a large sink was a covered metal can or tub of generous dimensions. 'This,' she said, 'is a dish washer and drier, and you can now see it in operation.'

She pressed an electric button, and steaming hot water flowed freely through a large sprayer on the inside, the wire rack on which the dishes were placed revolving in the meantime. After about a minute of this manipulation the water was shut off, the cover raised, a few puffs of dry warm air sent through the washer from a heated electric fan, and the dishes stood revealed clean and shining.

'We never have to wipe our dishes,' she said. 'The heat from the washing water and the warm air from the electric fan wash and dry them thoroughly, and when cool they are easily replaced on the tables and arranged for service.'

Further along were set tubs used for washing. She explained how soiled clothes were submitted in these to mechanical manipulation in chemically prepared warm water, rinsed and wrung out by mechanical means ready to dry in fine weather, though in wet weather or in winter there was a drying room in the house where they were dried by heated air. The process of washing took but a few minutes, and no drudgery attended it.

I was next shown the oven or cooking apparatus. A hood was suspended above it, which could be raised or lowered at will. This carried off to a ventilating shaft the fumes given out in cooking. On the top of the oven, which was not unlike a coal or wood-burning range minus the fire-pot, were pots or boilers with hinged covers. Inside of these, covered with enamel, were resistance coils, to heat water, make stews, soups, or boil meats and vegetables. Below there were two ovens, for roasting

meats, baking bread, etc., which were heated in the same manner. Heat-recording thermometers were used to record the temperatures in the pots and ovens, in which the heat could be regulated at will.

Mrs. Wellman next opened a door near the stove, inside of which was another door with glass panels, permitting an inspection of the interior of the place, which was lighted by a glow lamp from outside.

'Here,' she explained, 'is our cold storage closet where perishable provisions as well as canned foods are stored. The cooling of this room is done by the same electric current that cooks our food and heats our houses in winter, which the good sun sends through the winds. A curious transformation of energy, is it not? We keep our dried fruit here, also, and our flour of milk, for the air is very dry as well as cool.'

The mention of 'flour of milk' excited my curiosity, and I asked what it was. She described it to me as an invention of some antiquity by which the caseine and fat and sugar of the milk were combined in granular form, and soluble in water again, the water in the original fluid having been evaporated in the process. This substance, she said, could be readily converted into milk again, or be used like granulated sugar in tea or chocolate.

'But,' she added, 'while we use it in cooking and in bread-making, I always use fresh milk and cream in my chocolate and tea.' Of the canned foods she said: 'All our canned food is put up in porcelain glazed cans, which have screw caps and rubber washers, are easily opened, and in cold storage will keep for years.'

She opened another door and showed me her cereal closet, where metal barrels, with covers of the same material, were ranged in order, in which were stored wheat flour, cornmeal, rice, pearled barley, buckwheat flour and oatmeal. ‘We have still another variety of food stuff,’ she said. ‘It is made from the wood of a rapid-growing tree, of the poplar species, I’m told. It is called “cellulose,” and can be made into puddings, used for thickening soups, and for making a variety of dishes. It costs less than wheat flour and is said to be very nutritous, but I can’t say I like it. It is said to be coming into general use. In certain sections of the southwestern country large tracts of poor land are cultivated to the growth of the trees which produce it. Our bread is made of whole wheat flour, which is rich in phosphates. People who eat it through life and who use their teeth generously retain them into old age. We have several bakeries in town, operated for the commune, in which whole wheat flour bread only is made, but many families prefer to make their own bread, as we do. Starchy white flour is not used in bread-making. The other cereals are used as nearly natural as practicable. For example, rice is simply hulled, the gluten and phosphates on the outside of the grain being retained, as has always been the usage among rice-eating peoples. Our fresh meats are kept in the cold storage closet. Do you know,’ she said, with a sigh, ‘it seems cruel and even inhuman to slaughter living creatures in order to sate our appetites with their flesh. In doing this we display a savagery akin to that of fierce beasts of prey, whom we instinctively abhor. Why should

not these simple creatures that we kill for their flesh live to enjoy their brief existence as well as human beings? But I suppose we are not yet sufficiently refined in our nature to be freed from the flesh-eating desires of our carnivorous ancestors, who always lived quite largely on their less cunning and more peaceful fellow creatures of the animal kingdom. I will welcome the day, should it occur in my lifetime, when all animal foods which involved the taking of life to procure will be banished from our dietary. Of course butter, milk and eggs would not be included in the prohibited list. These things do not involve the taking of developed life, at least, and are as yet essential in our cuisine, that is, speaking from the standpoint of a cook.'

While I fully agreed with her views on the subject of animal slaughter for food, I could not help reflecting that vegetarianism could not have progressed in the past ten centuries much beyond sentiment, that is, it was probably just about where I had left it. But I made no remark beyond giving a smiling assent to the good woman's words

Mr. Wellman, the husband, who had followed us into the kitchen and had remained silent up to this point, now remarked:

'Your sentiments, my dear, do credit to your heart. But humanity is as indifferent to the suffering of animals slaughtered for food as carnivorous animals would be. Is it not, after all, a law of organic nature that destructive processes are necessary to constructive ones? The life cell or vital unit of all organisms is the same in the

humblest weed or blade of grass as it is in the highly developed grain or fruit; it is also the same in the lowest animal form as it is in proud man. These cells are builders as well as storers up of energy. They build on established lines of organism—a snail as well as a fleet-footed hound, a toad or a man. Give them the pattern to work by and they will follow it faithfully. They are sentient, if not intelligent, as we understand it; yet they build hooks on the burdock burrs as well as smooth skin on the apple. They sacrifice themselves for every movement of muscle and of brain, and pass out as waste, inert matter, having faithfully performed their part.

‘Vegetable organisms feed on decayed organic matter in the soil and water and produce substances which animals feed on. Carnivorous animals feed on the vegetarians, each finally surrendering to nature’s crucible, the soil, the constituents abstracted directly or indirectly from it. So that, after all, there appears to be no other method of physical sustenance or renewal of body waste than that involving the destruction of other organisms, developed or in embryo. It is, in fact a law of nature, in which sentiment has no part. Man is now practically the sole survivor of the flesh-eating animals, the other land carnivora being mostly extinct. Fish will doubtless always live on fish as well as on sea vegetation. Curiously enough, man shares with the domestic hog, which he devours, the distinction of being omnivorous. Being so he is not restricted to flesh diet, and, in a humanitarian sense, he could refrain from the slaughter of animals for food. But I doubt if he ever will.’

## CHAPTER IV.

WOMAN'S WORK IN THE COMMUNE—TRAINING CHILDREN  
IN SCHOOLS—MARRIAGE—VARIED INDUSTRIES.

We now returned to the sitting room, where Matron Wellman and her husband, the patriarch, had already arrived, prepared to take me on a tour of observation. ‘My wife,’ said the latter, ‘will be your guide and instructor today. I will act as charioteer.’

We were soon seated in the carriage on the way to a distant part of the town.

‘I am going to show you today, Mr. Wonder,’ said the matron, ‘something of woman’s work in this age; one of the important duties, at least, which she discharges in the social life of the commune. The bearing of children, as you know, is her most sacred and important function. The next is the care of them in infancy and in childhood. In the home, at the mother’s knee, the child receives the first lessons in its life education. If these lessons are of the right nature, well and good; if not, there must be found a way to correct or neutralize them, for on the nature of these earliest impressions depends, in no small degree, the right development of character in the later stages of the child’s life. If there be implanted in his nature, by heredity, certain tendencies to goodness, such as candor, amiability and evenness of temper, he is easily influenced in the right direction, if he is brought up in a way favoring the development of such inherited traits; but if his environment is not favorable to such develop-

ment, his character may become so out of harmony with what it should have been that he might become a danger instead of an ornament to society. On the other hand, if a child should inherit vicious propensities, how readily would he adapt himself to evil influences if not exposed to good ones.

Now here is the basis of our work: We begin with the home, and make ourselves familiar with its characteristics, as well as those of the parents. We have visitors, whose business it is to go into homes in a friendly way, learn how they are conducted, how the family lives, whether in unity or discord. Of course most of our married people of the town have always lived here, and their moral character is well known, but under new relations new characteristics may develop, and if they are unfavorable to the proper rearing of children, when children have come, we want to know of their existence. Our visitors render reports of their observations from time to time to a central committee of matrons in charge of the work. These reports cover the domestic history for the time being of all the young families visited, for it is only families with young children who are called on, and then only during the extreme youth of the children. The work of obtaining a record of such families in the way indicated is not such a difficult matter as you may think and it is not a work of mere espionage in the ordinary sense of that word, for it is well understood and readily acquiesced in by those who are subject to its operation, and is approved of by the parents of all young married people, because it makes the latter more careful in the

treatment of their offspring. Above all, the young people are fully aware of the fact that the system has not only an important influence for good on their immediate family but ultimately upon society. The visitors are all mature women—mothers, of well known capacity and experience, who in their early married life were subjected to the same experience—and are capable of giving, and do give, when needed, motherly advice and sympathetic suggestion, things which are of inestimable value to those in need of such friendly offices.

‘By this system the domestic condition of every household in the commune is on record up to date, and if an individual or a family leaves the town to settle elsewhere his or their record follows if it does not go with them. If persons from other towns settle here, and have not brought their record with them, we send for and obtain it and continue it here. So you see we have these things in easy grasp. Knowing, for example, therefore, the character of the parents and the conduct of the home, we take the child in charge in our schools, from the kindergarten up, and bring such care and right influences to bear upon it as are most likely to counteract home influences if they are not just what they should be. A child who, by reason of heredity and unhappy home influence, is in danger of going wrong or being warped in its nature, has more attention paid it, more loving care bestowed on it than is accorded a child of good parents, surrounded by better home influences, because the latter does not need such consideration, being happily placed in a better and more healthy home atmosphere.

‘ We know that, from its earliest infancy, the child is observing and imitative, and is apt to imitate the speech and manners of older persons, especially of those of its parents, with whom it is in most intimate contact ; so we teach at first, in the kindergarten age, by example and orally, quite largely. The imagination of the child is appealed to on the blackboard, where simple moral stories are pictured by sketches illustrative of scenes described, and of birds, animals, sylvan or pastoral scenes in them. This system of graphic illustration is carried into all lines of school work in the elementary grades of our schools.

‘ When the lessons of the kindergarten are succeeded by the more complex though still simple ones of the primary grades, and the boy or girl has developed to our satisfaction, we begin to hope that whatever unfavorable influences which may have existed in the home life or the disposition have been successfully counteracted. But even at this stage we do not relax our watchfulness and our efforts to make the good work bear its legitimate fruits in forming the character of the coming man or woman.

‘ But there is much of careful and anxious work even after that. It has become a settled custom with us that every candidate for matrimony must undergo examination by physicians as to their physical, moral and mental qualifications for the duties and responsibilities of the married state—the women by physicians of their own sex and men by male physicians. The age for marriage with men is not under 25 years; with women, not under 23. By the time these ages have been reached, in most

cases the character is formed, and maturity of conduct may be reasonably looked for. Knowing the antecedents of the young people proposing to marry, if the physical and moral examination has been satisfactory, as it usually is, and they are of congenial natures and love one another, they are pronounced eligible and congratulated on their life-venture. The marriage form is simple. The contracting parties, in presence of two or more witnesses, make declaration of their purpose to live together as man and wife, faithfully discharge all duties pertaining to the new partnership, and to be faithful and loving to one another for life. This declaration is also made in writing, signed by the contracting parties, two witnesses, and filed in the bureau of vital statistics in the town mansion. I may tell you that such marriages usually turn out to be happy ones.

‘If, however, the parties are judged to be incompatible in character or disposition, or physically unfitted for the union, persuasion and the good offices of relatives and friends are employed to prevent its consummation. These interferences are usually successful, but in case they are not and the parties persist in their intention, as they have the right to, their offspring, if they have any, is watched with interest and carefully looked after.’

‘If ill-mated couples do not live in harmony, what then?’ I asked.

‘If they have offspring they are expected to live together even if they do not agree. If a man should leave his wife or a wife her husband, and there are children, the deserter must contribute to their support while they

are young. The parents cannot go elsewhere, and settle and marry again because of their record, and they cannot settle anywhere until their record is known. They become social outcasts. If they have no offspring, after two years of wedded unhappiness they may be divorced by act of mutual renunciation of the marriage tie, before a justice and two witnesses, the same to be recorded in the bureau of vital statistics. Then, by order of the justice, they are freed from their obligation and can marry again. Happily such marital troubles are of very rare occurrence, and especially so when children have come to the parties, it being considered a disgrace for either parents to desert their offspring. But here we are at our destination.'

We had come to a substantial but not imposing group of buildings. The main or central structure was of two stories, with a dome roof, and wings on either side of one story. The whole was in the form of a letter H, the main building 75 by 150 feet, connecting with the two wings, which were each about 150 feet long by 30 feet in width. The number and size of the windows in the building attracted my attention. They were all open, so that the children in the rooms were practically studying in the open air. The windows, I noted, were double, the sashes sliding into the wall on opposite sides, and could be closed when necessary, the double sashes evidently being for winter use.

As we approached the first room in one of the wings, a hum like that from a hive of working bees, only much louder, saluted our ears. This, as we drew nearer, grew

in volume into a chorus of merry voices, mingled with gleeful childish laughter, as we entered the room, and here a picture of delighted innocence was seen such as I never expected to have the pleasure of witnessing. The teachers — girls in their 'teens mostly, though there were older ones here and there — were engaged in relating simple stories or repeating nursery rhymes to groups of children gathered round them, and illustrating the most striking parts of their stories or rhymes with blackboard sketches. Then the children were asked to repeat what they had heard, and their attempts to do this were often so ludicrous as to provoke laughter, in which they good-naturedly joined. We stood just inside the door for a time contemplating and enjoying the scene, and then the matron advanced to the centre of the room, we following, where the principal in charge was seated at a desk. She had been so busy and interested in the scenes before her that she had not noticed our presence until accosted by the matron.

She at once arose and respectfully saluted the visitors. Mrs. Wellman presented me as a stranger on a visit to the school. After expressing her pleasure at our visit, she made a sign to the teachers, who, with very little effort apparently, secured the silent attention of their classes. When silence reigned, the principal — a woman of mature years and of a motherly demeanor — said she hoped we would be pleased with the appearance of the school and the behavior of the children. These were all neatly dressed, had clean hands and faces, were of healthy and even robust physique, and appeared to be well fed

and bright. I remarked on these evidences of good home care to Mrs W., who said:

‘ You judge correctly, sir. Among the principal things which we insist on in the general treatment of children are, that they shall have a reasonable amount of good, nourishing food, and a healthy, cleanly, well ventilated home—and, above all, an abundance of pure air in the living and sleeping rooms; for, deprived of these in sufficient amount, physical and mental development would be badly retarded. Our practice is based on this theory: Build up the body with a sufficient supply of wholesome food, keep the child well supplied with pure air, and it will not be liable to infantile ailments. It is only the poorly nourished child, housed in ill-ventilated rooms that is liable to be frail of body and consequently weak brain. Physical health and strength are necessary to the proper development of mentality. Knowing this we are fully alive to the importance of proper feeding, ablution, and aeration of the body. Physical health and strength should mean mental health and strength, and the cultivation of the moral nature on these bases is not a difficult proposition to understand. The calls of our visitors to the children’s homes are, among other things, to see how they are fed; that their sleeping and play rooms are properly ventilated, their bedding cleanly and aired daily, and that they are bathed or washed every morning.’

‘ This is certainly an arduous work which the good women have undertaken,’ I remarked.

‘ It is exacting, but not more arduous than the performance of any other duty. The chief aim—and duty, I

may add — of humanity is to bring up the young to be worthy successors of honest and virtuous parents. In this matter, our committee of visitors is large, and consists, as I have already stated, of women who have brought up families, and their work is one of love and duty. Their visits are made weekly, not on set days, and such visits are in all instances of a friendly and neighborly character, for we know that women who love their children, and are of cleanly and correct habits, are sure to welcome such visits. It is only a few among mothers — I am proud to say they are very few in number — who need careful looking after, and even they become thankful for the interest taken in their children. They always do better by reason of our influence. Children of all grades, who live at a distance from the schools, are given warm luncheons at noon. Cold food for children is not tolerated.'

At a signal from the principal the children were now formed in ranks, two deep, and marched around the school room, officered by their teachers. They were all smiling and good natured, and seemed to enjoy this form of discipline as much as playing with blocks, dolls and other toys. The universal law of change appealed to them as it did to all others in the lines of evolution.

'The fact is,' said the principal, 'children crave change even in amusement, study or occupation all the time. They will return to their lessons and playthings after this simple exercise with renewed pleasure. This habit of marching in ranks, in step, is taught as one of the primary lessons in school discipline. In a short time

they will be let out to play in the school yard, the teachers accompanying them and sharing in their gambols. This not only serves to maintain a proper restraint upon the children, but it enables the teachers to prevent disorder and the commission of youthful indiscretions. The same system prevails in all primary grades in the other schools of the town.'

Our next visit was to one of the primary school rooms. Here the sexes, as in the kindergarten, were mixed, with children from five to eight years; but in the more advanced grades, with children from eight to twelve years, the sexes were separated. In the middle grades of this school, manual training of boys was an important feature, I was told, it being preparatory for admission to the higher or advanced trade and technical schools where the mechanic arts, chemistry and engineering were taught. The teachers, except in the manual training classes in this school, were women. The principal was a man, though in some of the other schools, I learned, women occupied this position.

The pupils in the different rooms visited, whether studying their lessons, reciting, solving blackboard problems, or listening to the instructions of the teacher, all appeared to be intent on their studies. They were orderly, respectful, cheerful, not too curious regarding the visitors, and very attentive and mannerly. It was a model school in all its details, and I was greatly impressed with the system of thorough discipline pervading it, and the absence of anything unpleasant in the conduct of the pupils.

The main building was large, and contained a number of class rooms for the more advanced pupils. In these rooms were taught anatomy and physiology, mathematics, theoretical engineering, the liberal arts and trades in elementary forms. The purpose of these advanced schools was to provide an industrial as well as theoretical training to the pupils, in order to fit them for study and practice in the highest schools of the town. One of the departments was devoted to the study of agriculture and allied branches, such as botany, horticulture and arboriculture. These latter branches were taught in the summer season by practical lessons in grounds attached to the school, where fine experimental gardens were maintained under good cultivation. Here pupils were taught the art of making nature beautiful by inducing it to conform to the human conception of what is most attractive in flower and foliage ornamentation. Lessons in arboriculture were taught by demonstration in the groves of forest trees near at hand. Gymnasiums were also attached to the school, as well as extensive playgrounds. For girls, there were departments in which needlework, cooking, bookkeeping, typewriting and other occupations suitable for the sex were taught. The class in cooking, I learned, received practical instruction in preparing the luncheon meals for the pupils.

Here I began to realize that the educational system of the town, of which I have given but an imperfect outline, was most comprehensive in scope, and while moulding the young in way to correct wayward tendencies and make good men and women of them, was thoroughly

practical and industrial in results. I expressed to Mr. and Mrs. Wellman the satisfaction which I felt at the general system of training the young, and surprise at the great expenditure of time and money in the work of education.

'After all,' said the patriarch, 'it is simply only the reduction to a general system, fostered and supported by the commune, of a duty which we owe to humanity; a work that, in the early days of the Republic, was left to individual discretion or, in the line of progress, to an incomplete system of public instruction. Under the older methods — miscalled education, for it was only partial instruction at the best — the individual was charged with the duty of rearing and educating his children. In the great majority of cases he was unable to properly feed, clothe, give them a right measure of education, and surround them with healthful influences ; for it was the rule that the poor had the largest families, while the rich had but few children. Of course the early public school system afforded a partial education, or rather instruction, for the children of the poor, and aided their growth in intelligence and consequent general improvement of their condition, but the rich were unduly favored. Thus while the smaller class grew richer and their children more favored, the children of the poor multiplied, with but few opportunities to satisfy their ambition, and by competition as wage workers in the fields of industry their prospects were always limited and discouraging. The poor man and woman, after a life of toil and sacrifice — their children scattered broadcast throughout the world

and living the same hopeless lives they had lived—were rarely enabled to save enough to support them in their old age, and were too frequently sent to the poor-house to live out a joyless existence.

‘ When we think of it we cannot help reflecting how aimlessly, how blindly men lived in those days, when selfishness ruled and the many toiled for the undue gain of the few. How short-sighted, how unfraternal such a condition of society! It has taken many, many years to bring about a sensible, simple reform, where it is found that not only the truest economy but the most satisfactory conditions of life are promoted and secured to all by a system of co-operative effort and mutual help, such as you see in operation in our little commune. Here you see evidences of thrift, comfort, contentment and progress on every hand, where the highest and best virtues of humanity are exemplified in the love and care of our fellow beings—that affection which binds us together as members of one family.

‘ Under our system—which has been one of very slow growth, I will concede—no one need suffer for lack of the necessaries and comforts of life, for all who work are given employment at a living rate of compensation, and if any are unable to work or have passed the active stage of life, they are supported by those of the commune who have the health and strength to labor and produce. There is no mere alms-giving charity in this, for they who have the ability to produce today owe it to those who in their time of strength had been the producers and had supported and educated them.

‘Thus we have no poor or charity houses in the original sense of the term, for the aged and infirm who are pensioned by the commune are in no sense regarded as dependants. They still have all the political and manhood rights of citizens. It is only those who through the misfortune of crime or insanity—for at best as well as at worst crime or insanity is a misfortune, which is often the curse of inheritance—that we deprive of these rights and their liberty. You will understand that our system is one wherein the individual is trained to be not only intelligent and moral, but at the same time industrious and self-dependant. Much of the complexity of the old civilization has been untangled, and we are now enjoying the rewards of a sensible and just system of co-operation which, as you can judge, binds the whole human brotherhood together as one family.’

‘Have you no idlers, loafers, tramps in the commune?’ I asked.

‘We have not. They passed away with the old industrial system, of which they were the unfortunate fruits,’ he replied.

‘Pardon me,’ I said, ‘for expressing an opinion regarding co-operation. I have always entertained the view that so-called co-operation, in which the individuality or the personality of the man was merged into the mass, was inimical to progress. In other words, it has seemed to me that one of the mainsprings of progress is individual enterprise; that the genius of men of commanding ability is essential to industrial and to national development; that, in short, however desirable it may be under

right direction, co-operation means in effect the subversion of individuality, and, to put it in the form of an old proverb, what is everybody's concern is apt to be no one's business.'

'That might have been true to some extent,' he said, 'under such conditions as prevailed in the early days of our Republic, but today it is not. In the evolution of human society, progress is made by the most available methods usually, though not always, for men in the aggregate were never as sensible as the few progressive ones who usually blazed the way to a better condition of things. Under such a state of affairs, individuality of the aggressive and commanding type was perhaps called for, though impelled by supreme selfishness—the lust of conquest or the pride of glory. In the days of notable achievements of the past, when kings and great captains led vast hordes to conquest, those armies were simply co-operating masses of men who strove for a single purpose—the defeat of opposing bodies and the conquest of the peoples whose countries they invaded. Without such co-operation of the fighting units and the co-operating support of the people they represented no victories could have been achieved.

'In all industrial triumphs the same principle prevailed. Men were organized under a recognized head or management to co-operate in peaceful pursuits, and, when rightly directed, were usually successful in obtaining desired results. Co-operation in all ages was, as it is today, the basis of success in every department of human effort. But let me say that co-operation at this stage of human

development is not dependant upon any leading or dominant individuality. We have arrived at a better solution of the social and industrial, the life-problem, so to speak, where co-operating individuality gives to mankind, the world over, the best industrial results and the greatest social enjoyment. The masses are their own leaders in our co-operative commonwealths of today. They are intelligent enough to understand that agreement to and united effort in carrying out the details of such a system is the best way to insure its success, hence there is no clashing of interest or opinion ; each one is satisfied to do his allotted or chosen part and thus harmony prevails in all lines of effort.'

'What I have already witnessed and heard in your town,' I said, 'strongly confirm your words, but still the whole matter is so new and strange to me that I can hardly realize it.'

'I do not doubt it,' he said, 'and perhaps it is too much to expect from you a full comprehension of the exact condition of affairs as they are with us today. But I will more fully enlarge on the subject, which I may say is most vital to our modern civilization : There is, then, to begin with, more true individuality among men now than there was in the days of what may be termed the "one-man power," but it is of a different character. In those days individuality was actuated by purely selfish motives, and in the scramble for wealth and fame the individual who was successful simply triumphed over his competitors by superior ability, cunning, or tenacity of purpose. Now a nobler ambition actuates men. They

regard mere triumph over others as worthless compared with that which contributes most to the benefit of humanity; for what, after all, is the vain triumph over an enemy or a competitor? It should beget in the generous mind only pity for the defeated rival, while in the mind of the ungenerous it would no doubt foster a brutal desire for further conquest.'

'True individuality, as we have proven, is best exemplified in a condition of society where every man and woman will willingly and gladly bear their share of the general burden of life, and will even strive to do more than that, if need be. We have not, however, arrived at a condition of social evolution where complete individuality as we understand it can be claimed, but we are coming to it surely, if slowly. When we do, every man and woman will be so thoroughly individualistic that they will be a law unto themselves. Then all law-making and law-enforcing will become unnecessary, and if any remnant of rivalry survive, it will be manifested in endeavor to best promote the common welfare.'

'But will not such a condition of society as you have indicated tend to promote mediocrity instead of enterprise and excellence in the individual?' I queried, not fully satisfied with the new idea.

'On the contrary,' he replied, 'it would promote general excellence, for each individual will feel that he is in a life endeavor where the true merits of acquirement and performance will be gauged by comparison with the works of others. This spirit of emulation can be depended upon to keep humanity above the dead level of mediocrity and

in the line of true progress. It will no doubt be true in the future, as it is today, that all men do not inherit equal capacities in all the concerns of life work, or that all men are not equally endowed with nature's aptitudes. Men are, however, variously endowed — some with mechanical ability, some with the faculty of invention, some with the capacity for thought and abstract speculation, some with a genius for investigation and philosophy, others for music, agriculture, business, and so forth. In the various pursuits the aim of all is to excel, not in competition with others, but as a matter of individual ambition. Surely such emulation must be productive of anything but general mediocrity; as a matter of fact, it has resulted in a general elevation of the standard of humanity not only industrially, but intellectually, morally and socially.

'It may seem strange to you that men can co-operate in all concerns of life and yet retain their individuality, but, to those who are born and brought up to it, it fits as easily and naturally as a habit. Men as well as children are naturally imitative, and readily acquire the habits as well as the customs of the society in which their lot is cast. They also take the more readily to such usages because they are disposed to them by an inherited inclination, which is fostered and confirmed by training and education. Thus society moulds the individual today.'

On our return from the school, I noticed and remarked on the fine groves of forest trees on the hill sides, which seemed to have been cultivated as carefully and with as much skill as fruit orchards.

'These,' said the patriarch, 'represent an important branch of our industries. We have in the town extensive orchards of sugar maples which produce many tons of sweets every year, our state alone producing thousands of tons annually. You can notice the absence of useless shrubbery or underbrush among the trees. These are systematically weeded out, leaving the full strength of the humus-nourished soil for the useful trees to feed on. We also have timber groves in which the trees are quite as carefully selected and cultivated as in these. We know the value of forests in determining rainfall and preserving fertility in the soil. There is not an acre of ground in the town which is not cultivated or otherwise occupied for some useful purpose. We have also, where practicable, many trout ponds in which these fine fish are bred. Our water courses are utilized for power and irrigation purposes, and our storage reservoirs for household uses. The reservoirs are ample to supply our wants for hundreds of years to come.'

Arrived at the Wellman home, we found an appetizing meal awaiting us—this time the animal food portion of it consisting of baked mackerel, as fine and fresh as could usually be found in the Boston market—a fact which I stated, and it was explained that the fish had left Boston only about three hours before, and being transported in a refrigerator car was to all intents and purposes as fresh and as good as if only just landed from the fishing grounds.

After luncheon the usual siesta was indulged in by the family, and, as I learned, it was a custom observed in

every household. The public conveyances had ceased running, for no one was stirring abroad, except that a stray pedestrian or a small private vehicle went by a little late, but even these at length ceased, and I remarked how quickly the bustle and activity of the town had changed to restful quietude.

‘This suspension of activity,’ said the patriarch, ‘is a well-considered form of rest. It conduces not only to health and longevity, but it shows that by our system of co-operative industry we can afford to take our ease after a period of work, and are not subject to the anxious, strenuous life which prevailed in the days when strictly competitive effort and personal ambition impelled men to sacrifice health, comfort and enjoyment for mere sustenance on the one hand or for wealth on the other. In the days when labor was so competitive and comparatively unorganized that capitalists could and did control it for their own aggrandisement, and amassed enormous wealth—the major part of which should have been distributed among those whose labor created it—the men who toiled, as well as those who employed them, were continually on the rack—the many to secure a bare sustenance, and the few to gratify an insatiate desire for still greater riches.’

‘You state the case to me in a new light,’ I said.

‘I speak only the truth of history,’ he remarked, and continued: ‘This condition of things at length aroused the industrial masses to form trades’ unions—co-operative organizations—to wring a measure of justice from the employing capitalists. But this was found to be only

a partial remedy while the laws and lawmakers were controlled by the monopolist class, until the workers organized politically and elected men to frame and execute laws which gave to them an equitable proportion of the products of their labor. When this was accomplished the opportunities for accumulating huge or even large fortunes ceased, and, the opportunity being taken away, even the most avaricious forgot their sordid ambitions, and society gradually settled down to more just and equitable methods of industry and compensation of labor, which culminated finally in the equitable system of co-operation.

'It took many, many years of strife and turmoil to bring about the present condition of affairs; but it came, in the natural course of social evolution, and will continue to prevail with whatever improvements experience and a desire for further betterment may suggest; and we are now enjoying some of the fruits of the new dispensation. One of these you have remarked on. We work faithfully when we do work, and when the time for relaxation and rest comes we take our ease, undisturbed by any fear or apprehension that others are taking advantage of our inaction to get ahead of us in worldly gain. With this feeling of security, our ease of mind and absence of worry are promotive of satisfactory and healthful rest. So we work in season, rest in season, and court enjoyment in season.'

'But,' I asked, 'do not these easy conditions of life promote a habit of idleness? Do they not stifle ambition in the average man?'

'They do not. Men, trained as they are today, are moved according to an intelligent estimate of their position in society and the duty they owe it. If men are trained to consider it nobler to do their duty toward their fellow men than to evade doing it, they will be scrupulous to perform it willingly and faithfully. There is a triumph of achievement in the performance of every kind of work that will benefit the commune, either materially or in the line of intelligence, that appeals to the pride and honor of the individual, and impels him to faithful action. Besides, you will remember, every man who works is practically working for himself, and has that additional incentive to diligence and faithfulness in pursuit of his occupation. It is better to promote the industrial habit under right conditions than to depend upon the coercion of necessity to make men do their duty to society and to themselves. This is what we have proven in our practical life, and which, I may say, has been productive of as much enjoyment as moderate activity, practical competence, the regard of our fellow-workers and the the approval of our own conscience, can reasonably be expected to produce.'

After our rest, and when the town had resumed its activity, the patriarch took me to visit some of the manufacturing establishments of the town. Our first visit was to one where aluminum and its alloys with copper and other metals were spun on lathes or stamped by compression into all manner of vessels and things used in the household or elsewhere, such as table ware, wash bowls, pitchers, plaques, pails, foot bath tubs, preserve cans, etc.

After being moulded into desired forms the articles were covered with a coating of enamel, then, when it was desired, decorated in an artistic manner, and finally run through a kiln of high temperature, where the enamel was set and glazed. In this baking process, it was said, the enamel combined with the metal, producing unbreakable articles. This ware, I was told, had replaced crockery and china ware altogether. Here enameled tubing of all sizes was also made. This tubing found a wide use for water pipes, pneumatic service and other purposes. The output of this establishment, which employed a large number of men and women in its various departments (women being chiefly employed in the work of decoration) found a market throughout the country, though there were several factories of the same character in other places. The decorations of table ware were mostly of rural scenes and landscape views and I noted the fidelity to nature, coloring and detail in them. One large plaque attracted my attention. It contained a view of the town mansion and surrounding scenery and was a fine work of art. I inquired who the artist was, and was told that it was the sun. In other words, that all the decorations on ware were produced by photography, in which natural colors were reproduced as faithfully as the forms and details of the subjects.

‘Photography,’ said the patriarch, ‘has been brought to such perfection that it has almost altogether superseded the work of the artist in reproducing natural scenery and portraiture. It is a great advance on portrait painting for its exactness and natural coloring.’

Our next visit was to a furniture factory, and here I had a still greater surprise. I expected to find great piles of lumber, and saws, lathes, moulders and planers at work moulding it into various shapes; but no lumber was anywhere in sight. Instead, I saw, on the basement floor of the large building, a series of vats, as in a tannery, which contained masses of pulpy material that were being stirred by mechanical agitators.

'Here,' said the patriarch, 'you will witness processes which exemplify the high water mark of modern industrial efficiency and economy. What formerly were waste products or materials that were burnt or otherwise destroyed are here utilized to make not only articles of furniture and other house equipment, but bodies of carriages, trunks, and many other things which were made of wood formerly. All waste paper and other fibrous material for which there is little or no use—straw, the stalks of flax not used to make thread and cloth, stalks of the cotton plant, coarse grasses, waste excelsior and even sawdust—are here reduced to a pulp and chemically treated. This mixture is then pressed into moulds of all the forms and shapes desired. They are the component parts of various articles of furniture, etc., and are made to fit together with exactness like the several parts of a machine. For example, the different sections of a chair are moulded into the required shape and size, and then put together in a way which, when finished, makes the article practically one piece, a cement being used which consolidates the parts. These chairs are much stronger than wooden ones and will last a lifetime. The same is

true of the other articles made of this material. Other articles, such as tables, bureaus, etc., are moulded in sections and put together with cement. In addition to the strength of the material, it is almost incombustible. You may think, perhaps, that this indestructibility of character would operate against the permanency of the industry, but the population of the country and the world is increasing all the time, and new wants are constantly developing in this as in other matters of domestic taste and convenience. The foreign demand for this class of goods is growing rapidly. We ship the parts to save freight cost. They are assembled at places of destination.'

We visited other departments of the factory, where the various parts moulded were put together, and noted the work of assembling, polishing, decorating and boxing of parts for shipment, in boxes made of the same material. Another department turned out barrels, boxes, trunks, suit cases, and many other articles of use and convenience.

At another factory a short distance away we found another flourishing industry of the town. In it, what I would call electrical fabries were manufactured on a large scale — such as I had seen made in the electrical laboratory at the town mansion. In addition to carpets, rugs, etc., some of the departments of this mill were devoted to the manufacture of different electrical fabrics of finer texture, among others for garments to be worn on the body, legs and feet. I learned that garments made of these fabrics were prescribed by physicians for persons of impaired vitality and aged people generally. Attached

to the mill was another and larger one, where all kinds of electrical machinery and appliances, ranging from the largest generators and motors to the most delicate electrical instruments, were made. We did not enter it, for the same reason that we did not go into the carpet mill, having seen the same kind of work at the electrical laboratory in the town mansion.

We next visited a factory where another surprise was in store for me. The machinery was smaller and more compact than that of the woolen mills which I had been familiar with, yet it was evidently a woolen factory, as the staple was being converted into thread in some of the machines in operation.

'This,' explained the patriarch, 'is our clothing factory, where men's, women's and children's garments are made directly from the staple, which has been dyed, spun and prepared for the process of weaving into shape. The methods employed may appear complex, but they are quite effective. For example, if you desired a suit made to measure, an exact outline of your body and limbs is taken and transferred to shapers in the looms, around or on which the sections of the garments are woven. The coat body, with arm holes, is woven in one piece, the opening in front being connected by single threads, to be cut in the finishing process and the binding attached by a separate machine. The collar is made in another loom. The sleeves are woven to size and attached to the body by other machines. Then the lining of the garment, including pockets, is woven and attached. In the improved process, now being worked out by our inventor, the lining

will be woven with the garment, which will be a great saving in time and cost of manufacture. Trousers and vests are made in the same general way by other looms and processes. The work of producing a suit is quickly done. If they should now take your measure for a suit of clothes, you would have them delivered in three hours or less, as the different processes are carried on simultaneously, the parts quickly assembled, and the suit finished before you realized it.'

I noted that the looms were operated somewhat like knitting machines, but was assured that the fabric would not ravel if torn or cut, as knit work is liable to. Ready-made clothing, however, was the main product of the mill. Garments of all sizes were made. Women's skirts, waists, coats and other articles of clothing were also made in this factory, of fine wools to finest silk, satin and velvet. A large number of both sexes found employment the year round in this establishment. The patriarch told me, with pride, that this whole system of clothing manufacture, including the machines employed, was the invention of a young man, a native of the town; and so popular had this make of wearing apparel become that factories for its production were springing up all over the country.

'I suppose,' I remarked, 'the inventor has realized or will realize in time a handsome competence from this great invention.'

'No,' was the reply. 'We have no patent or other monopolies in this age. The granting of a patent now is only an honorary affair—a modern patent of nobility or achievement, as it were—which simply recognizes the

merit of the inventor and marks him as a special benefactor of his race. The inventor is now only simply the superintendent of this original mill which operates his inventions. His fame, however, is becoming world-wide.'

'We will now,' continued the patriarch, 'visit one of our shoe factories,' and we were soon at the place.

It was like the other factories in outward appearance; walls and roof of concrete, with numerous windows on each floor (usually only three floors), but I missed the tall chimneys of the factories I had known, mentioning which to my guide, he said:

'We have no use for chimneys, as coal is not now available, and we do not burn wood for power purposes. Our extravagant ancestors made such inroads on the coal deposits of the earth that what is left in remote places is practically inaccessible to us, and even in those places the supply is nearing exhaustion. But we still have the winds, the tides, the waters of our streams and rivers; we produce alcohol (another form, like electricity, of transmuted sun energy) in vast quantities, and from these sources we derive sufficient power to use directly or to produce all the electric current that we need. Steam is a power of the past, a mighty one in its agency to promote the progress and development of the world. It has left only grateful memories after it. But it has departed from the earth with the wars it aided in its day, with the religious persecutions and myths of the melancholy eras when superstition agitated and oppressed mankind, which unlike it, have left no grateful memories after them.'

The shoe factory was as unique in its methods and its

products as the clothing factory. While it produced all kinds of footwear it made them, or most of them of material and by methods unfamiliar to me. The uppers were woven or knitted, like the feet of stockings, the insteps of the low-cut and ankle shoes being made with open-work stitches in which elastic threads were used to hold the shoe firmly yet gently to the foot, thus dispensing with laces and other forms of fastening. The fabric of the upper was waterproofed without being rendered non-porous, I was told. A sole made of a compound of fibrous material, india rubber, gutta percha, cork, sand and other ingredients, formed in the shape and contour of the sole of the human foot, was cemented and otherwise attached to the upper so strongly that when once fastened it could not be removed. This sole, moulded under great pressure and heat, was very elastic and fitted easily. There were no heels. The uppers of the shoes, woven on metal castings of different sized feet, moulded from nature, and the soles to fit them, were easily combined. The boots and shoes made by this process were quickly and cheaply constructed and were sold at much lower prices than those made of leather. Other factories in the town, I was informed, made boots and shoes of leather, except that in most cases the soles were of the compound and in the form as used in the knit footwear. These soles, it was claimed, would outwear leather ones, besides being easier to the feet.

We next visited the silk and linen mills. There I learned that the material used in making silk fabrics was not the product of the silk worm, but was produced by

chemical process, and said to be superior in strength and elasticity to the animal product, and that linen cloths were not made solely of flax fibre, but of a mixture of flax, cotton stalk fibre and certain southern grasses which had been acclimated and were grown in large quantities in the northern states. These and the cotton stalks were decorticated by a new process, and largely used also as warps in textile manufactures. Pure linen cloths and laces were made. Mixtures of silk, flax and other strong fibres in bewildering variety were also produced here.

There were also, I learned, some cotton mills in the town, and two or three mills where wood work in connection with house building, etc., was done; but as it was nearing the hour of business suspension we decided to omit them for the time.

In all the factories visited, with their thousands of operatives, I was impressed with the uniform diligence and strict attention of the workers, who seemed wholly intent on their occupations. I further noticed that where men and women worked together there was no chaffing or bantering talk between them. This led me to remark to the patriarch that there must be strict rules in the mills in regard to behavior in working hours.

‘Nothing of the kind,’ he said. ‘The workers are so deeply interested and earnest in their occupations that they give no time or thought to anything else; and, besides, their native dignity would keep them from trifling talk and actions at such a time. When there is a violation of unwritten rules of behavior, which is of extremely rare occurrence, it is silently but nevertheless effectually

rebuked. You must not infer from this that we are deficient in the sense of humor or are not appreciative of wit and lively conversation ; but there is a time for these, and it is not the work time. Our motto in this respect is : When you work do it earnestly, and when you play, play heartily.'

Our evening meal on this day had for its principal dish brook trout — small, done to a rich crisp on the outside, without being partly burnt as on a griddle or frying pan. They had been cooked in the electric oven and were juicy and toothsome.

The family members were vivacious, as usual, and their talk entertaining. I recounted my experiences of the day, how wonderful many of the things seen seemed to me and what great advances in education and industry they indicated. A general discussion now followed, and the inception, growth and development of the industrial and educational systems were outlined, to my great satisfaction and enlightenment. It was all very pleasant and I may say very gratifying, and was accorded with an intelligence and evident desire to give information that fully satisfied my curiosity.

The day had been a strenuous one, and when the hour for early retirement came I was glad once more to woo the restful couch and seek new energy and recuperation in "tired nature's sweet restorer, balmy sleep." After a pleasant good night from all the family I retired. Though I had much to think of and ponder on after my experiences of the day, I no sooner laid down than I fell into a dreamless slumber.

## CHAPTER V.

VISITING UNDERGROUND WAYS—THE TOWN FARM  
AND TOWN STORES—FINANCE.

The good night's rest refreshed me, and after a hearty morning meal, the patriarch said he would take me to one of the underground ways of the town—conduits, in which water mains and pipes and electric wires were carried throughout the territory down the course of the valley.

We entered the subway system at a point not far from the Wellman residence, and I found it an arched tunnel about nine feet wide by ten feet high. The walls and roof were of concrete. The subway was lighted at intervals by glow lamps, which gave a dim but sufficient light to distinguish objects in it plainly enough for our purpose. On one side, rising from the floor was a ridge or bench of concrete. My guide said it covered a large water main, made of aluminum alloy, coated with enamel. The tubes composing the main had been made in the factory we had already visited. It was explained that with such covering there was no danger of it bursting from the pressure of water in it, and being composed of pipe lengths screwed together in sleeves there were no leaky joints. At points where house connections had been made, or might hereafter be made, a much stronger and heavier pipe, not covered, was used. These exposed sections were prepared for new connections in addition to existing ones.

Above this water main bench a network of covered electric wires for power, light and heating purposes were strung on arm supports. There was also a series of wires which had formerly been used for telegraph and telephone purposes, but they had long since been superseded by the aerial or etheric systems.

There was, on the other side of the subway, on the floor, a large pipe or main uncovered. This, I was told, was employed for the purpose of carrying cold air to dwellings, factories, public offices and places of amusement in hot weather. The cool air was drawn from an upper stratum of atmosphere through a tall tower placed on an eminence. Compressing fan blowers, operated by windmills on the top of the tower, was the force which sent the air through the pipe to cool in summer, and in winter to heat, resistance coils being energized through which the air was passed to be heated. The coils, when the current was turned on, were capable of heating the passing air up to 70 deg. Fahrenheit. In moderate weather the action of the compressor could be reversed and made to exhaust air in buildings for ventilating purposes, the whole system being regulated electrically. There were several of these fresh air systems as well as underground ways in the town.

Under the floor of the subway a channel or sewer ran, through which waste water from the dwellings and factories was conducted to reservoirs further down the valley, where the water was used for irrigation purposes. This subway, like others in the town, had many lateral branches or feeders.

'But the sewage from the water closets, where does it go?' I asked.

'We have no water closets,' he replied. 'Earth closets are in general use. These are cleaned out twice a week in warm weather, and once in two weeks in the fall and winter seasons. In the earth used, which is thoroughly pulverized and dried, there is combined a chemical deodorizer, which at the same time has fertilizing properties. The cleanings from the closets are composted, desiccated and made into an excellent fertilizer, which is in great favor with our farmers. We waste very little in this age of economy. Even the swill from our kitchens is made into a fertilizer.'

'Don't you feed swill to your hogs?' I queried.

'Where hogs and fowls are kept by small farmers they feed them with waste from the table, and are allowed to collect swill from the villages, but this must be done in the evening and only enough taken for immediate use, to avoid fermentation, but this consumes only a small amount of the kitchen waste of the town.' he replied. 'On the town farm, however, where hogs and poultry are raised by the thousands, they are carefully fed on food cooked specially for them. We find it pays to feed animals well and house them in clean, well-ventilated quarters.'

'You have mentioned the town farm before,' I said. 'My curiosity is aroused, and I would like to see it.'

'You shall see it. We will go there now, as tomorrow is Sunday, and a general holiday,' replied the patriarch, and we left the subway and took seats in the runabout.

Our way led to a section at the south side of the town, one of the finest and most attractive in that splendid country. Along the way—the streets were lined with elegant shade trees—I had a fresh opportunity to note the general air of thrift, comfort and taste which pervaded every homestead. On the small farms comfortable homelike cottages could be seen, and the farmers were busily at work in the fields. The small fruit orchards—the trees loaded with young fruit—on some of the more hilly places, and the well-kept groves of sugar maples which eclipsed them in size, added to the general effect. The dyke-fences dividing the farms, as I had already noted, appeared covered with raspberry and blackberry bushes, their branches bending under the ripening berries, while the fruit trees planted on them at intervals vied with the smaller growths in the promise of abundant yield. There were flower as well as kitchen gardens at every dwelling, indicating woman's taste and refinement. At every house there was an open shed, under which the younger children could play, with swings, hobby horses, and other means of amusement and exercise. Grouped near to the farm houses were barns for hay and grain, stables for cattle, sheds for sheep, poultry yards and houses, and houses and pens for swine. After a pleasant ride of observation, we entered upon a territory where farming operations were evidently prosecuted on a large scale.

'We are now entering upon the territory of our town farm,' said the patriarch. 'It covers an area of about six thousand acres.'

We soon came to a small village or collection of houses,

with extensive outbuildings — barns, stables, dairies, and other structures for domestic animals. All the buildings for stock and other farm uses were on a large scale. We wheeled up to one of the cottages — they were all about the size of ordinary farm cottages, containing, I judged, about eight or ten rooms each — and alighted. A woman answered our summons, and said her husband, the superintendent, was in a field near by engaged in farm work. The woman was accompanied by two chubby children, with the roses of health in full bloom on their cheeks, who clung to her skirts and eyed us curiously. We walked into the field, where I caught sight of the first horses I had seen since I came to the town. They were drawing cultivators in a potato field of apparently illimitable extent, probably of several hundred acres. A number of horses were at work, each harnessed to a light cultivator. I was pleased to see the noble animals, whose general absence had made me feel lonely since I came to the town.

The superintendent, I found, was an all-around man, being a well-trained and educated agriculturist. He first took us to a group of houses for swine, located some distance from the dwellings. The breeding pens were larger than the fattening ones, and houses and pens were very clean and well ventilated. The animals, I learned, were fed at regular hours three times a day, had plenty of running water to drink and to wallow in, and looked clean and healthy. Care was taken, we were told, not to interbreed too closely, as it was found to dwarf the stock and even produce an inferior quality of meat.

The stables where the cattle were housed were also located at some distance from the dwellings. More than twenty-five hundred milch cows, besides the young stock, were kept on the farm. The cattle were not all kept in one place, but were distributed among the four groups of villages on it, one of which we were then at—the central one. The stables at this place were models of clean and well kept animal shelters. When the cattle were housed deodorizing chemicals were used daily. At that season, however, only the working horses were stabled at night, the other animals being kept in the pastures.

I learned that heating of stables, swine and poultry houses in cold weather was practised. By this system the comfort of the animals was promoted, and it was found to be economical because much less food was needed. I thought this method of treatment of farm stock was a great improvement on the old ones. Why not promote the comfort as well as the health of useful animals during their brief existence? They are our less selfish fellow creatures.

All the animals on the farm were carefully bred, those of vicious propensities being restrained from propagating — were fattened and killed when young. Good breeds and judicious crosses had established a general excellence in all lines of domestic animals on the farm. In fact, as I learned, this was the general usage everywhere. Neats cattle were raised of two strains—for milk and butter production, and for beef purposes. Very young calves were not slaughtered for veal. The same rule regarding sheep and swine prevailed, and a careful inspection of all

animals to be slaughtered was made by veterinary surgeons, to see that they were fit for food.

This farm sent out daily large quantities of milk to supply families who did not keep cows. The surplus milk was used for butter and cheese-making. The bulk of the milk supply, however, was derived from the small farmers.

On a hillside, which sloped to the southeast, back of the farm village, was a large area — probably fifty acres — under glass. The greenhouses were idle at the time of our visit, but in the fall cultivation of vegetables for winter use was begun. These greenhouse supplied fresh vegetables for winter consumption, as well as plants for early out-door spring planting, vegetation in them being quickened and promoted by a judicious employment of the electric current both in the soil and in the form of light at night.

In addition to the ordinary cereals, the farm produced large quantities of roots, including beets for distilling purposes. It was found that corn stalks, formerly raised for fodder only, were rich in saccharine matter, and they had been added to the alcohol-producing roots and grains of the farm.

The land was in a high state of cultivation. The farm was run on scientific principles, the superintendent being a chemist as well as an experienced agriculturist. I was told that a knowledge of agricultural chemistry was general among the farmers, and that to the early granges was largely due such a thorough knowledge of the science and practice of farming; also that those organizations had

an important agency in bringing about the general system of co-operation in the farming and all other industries, which naturally led to the existing system of communal proprietorship of lands and dwellings, and the ownership and operation of all manufacturing industries, as well as of all public utilities.

'We will now, if you desire,' said the superintendent, 'visit the homes of the aged and infirm members of our commune. They are mostly those who have no surviving relatives or whose children and other kin have gone abroad and settled elsewhere. Being citizens of the town, they are entitled to either pension or support from it, and choose this place as a residence instead of living alone or in private families.'

I did not marvel at their choice when I saw how comfortably these old people were placed and observed their cheerful and sanitary habitations as well as the flower gardens surrounding them. The dwellings were in a group of attached buildings, constructed in the form of a letter Y, the large or main building forming the stem, the wings spreading out from its rear section. In the main building, which was one of large dimensions, and three stories in height, were located the infirmary, the hospital wards and doctor's and nurses' quarters. The wings were of one story and subdivided into two and three-room tenements, the first for single persons or for married people—a living and a bedroom; the second for an old couple needing constant attendance, perhaps a relative who chose to act as an attendant, or a nurse of the hospital. The lines of Pope's 'Man of Ross'

occurred to me when I beheld these happy and contented old people, most of them nonogenarians and a few over the century mark, I was told, and I mentally repeated the lines :

‘ He feeds yon almshouse, neat, but void of state,  
Where age and want sit smiling at the gate.’

This was no almshouse, however. It was a chosen home, and there was no want. But the sentiment of the ‘ Man of Ross’ was in evidence: the great heart of a just and fraternal community—a people who practised the religion of humanity, I was glad to note, presided over and sustained this bounty. I learned that where weak eyes or dimness of vision prevented any of the inmates from reading newspapers or books from the library, attendants read to them, and they were cheered three times a week by concerts and other entertainments in a hall in the main building. A general dining hall was provided, but those who could not come to it had food served in their apartments.

‘ All this,’ said the patriarch, ‘ is done for these people not as a matter of charity, but as payment for what they have done during an active life of faithful service to the commune. They are now simply living on their earnings saved in the general fund.’

What a wonderful change, I thought, must have been wrought in the conduct of men towards one another from the time when the pathetic ballad, ‘ Over the Hill to the Poor-house’ had its significance and this new time and new dispensation !

Satisfied with the information gained in regard to the

conditions prevailing at the town farm, I thanked the courteous superintendent for his attention, and with my guide remounted the carriage which was started on our return, but by another road. My brain was filled with wonder and admiration at the many evidences which I had already had of the new civilization in which humanitarian methods were so successfully reduced to practice. I now made some further inquiry in regard to the regulations prevailing in the town. The old man said in reply:

‘We have a code of regulations, which have been adopted by vote of the entire people; from time to time, as called for by the exigencies of changing conditions. These are published twice a year, January 1 and July 1. Every family receives a copy of them, so that no one can plead ignorance of their provisions. As a result, any violation of them is extremely rare. None is onerous, however, and all are reasonable. This may account for it, in part, at least.’

‘But if these regulations should be violated, what are the penalties?’ I asked.

‘Rarely more than a slight fine, generally an acknowledgment or explanation by the transgressor, and promise not to repeat the offence, are all that is exacted,’ replied the patriarch. ‘We believe in restitution and repentance rather than in punishment. It leaves no sting or feeling of injustice suffered.’

‘Of course you have laws and a judiciary to interpret and enforce them,’ I said.

‘We have statutory laws, state and national, and a

well organized judiciary system. Our laws against flagrant misdemeanors, such as murder, felonious crimes and violations of that nature, are severe and strictly enforced, but it is now extremely rare that such crimes occur anywhere. The fact is, by our system of repression, we have weeded society quite thoroughly of its abnormal elements. The active agency of our judiciary, therefore, is so little called for that judges and lawyers find more congenial occupation in other pursuits, though still nominally in the profession. For example, my son is a judge of the superior court, and there are several lawyers in town, but their services as such are rarely called for, so they make themselves useful to the commune by superintending or working in factories, teaching, farming, and other useful occupations,' he explained.

'Then your son's profession does not interfere with his mercantile occupation,' I observed.

'No; he is simply an agent of the commune. There are five stores in the town — one in each precinct — and all the people supply their wants from them. My son will inform you about the details of the business,' he said.

'You have already informed me in regard to the selection of town officials and their terms of office, their duties, and so forth. On a broader scale, let me ask how state and national representatives and officials are chosen?' I said.

'Committees are chosen by ballot from the different precincts of the town whose duty it is to arrange with similar committees of other towns, in convention, as to

the nomination of representatives. Delegates for nomination of national representatives are chosen by these district conventions. All representatives are elected by direct vote of the people. The same is true with respect to the election of President and Vice-President. These latter are elected for a term of ten years, and are not eligible for re-election to the same offices. In fact, the terms of incumbency of all public offices is the decade. The same general system of choice of public officers and term of office prevails in the sister Republic of Canada, with which country, as with all others, we have had absolute free trade for hundreds of years past. It is the duty of all citizens, men and women, to vote at elections, and, I will add, they faithfully discharge it,' said the old man, in a tone of satisfaction.

'Are changes in public offices frequent?' I queried.

'No,' he said. 'Public office is rarely sought for, and those who are chosen, with the exceptions named, can retain the same during active life, but they must be re-nominated and re-elected at the end of each term. Women as well as men are eligible for all offices in town, state and nation.'

'How many political parties have you?' I asked.

'There are no political parties nowadays,' he replied. 'Men and women are selected and chosen for their fitness and ability, and re-elected for faithfulness of service; but the high offices of President and Vice-President are given successively to men (though women are not debarred) representing different sections of the country, which is divided into ten districts for that purpose, so that all the

sections are represented once in each century. Two are nominated for each of the high offices, as well as for seats in Congress and the State Legislatures, and the people choose between them, the best esteemed for ability, character and public service being usually chosen. These men and their character and ability are made known to the people through the public press. There are no orations or stump speeches made or called for. Before the day of election, however, one of the candidates for the highest offices usually withdraws. People generally do not seek public office, but when elected accept it as a duty every citizen owes to his commune, state or country. Men in the humblest occupations are often chosen to the highest offices. There is little to be gained by public service save the applause of fellow citizens for the faithful performance of duty and the approval of one's own conscience. There is no opportunity for personal enrichment, and indeed such aggrandisement is now of little significance to any man of merit and character.'

'If Canada is a republic, why has it not become a part of our federation?' I asked.

'Canada,' he replied, 'is a nation with a connected territory larger than the United States, with a population of more than a hundred and fifty millions, while the population of the United States is three hundred and fifty millions, and were it not for the growing simplicity of our institutions, in which the units bear the burden of the details of self-government, this vast aggregation of people would form a mass which, under the old system, would be too unwieldy for management by centralized

authority alone. To explain further, as our civilization is being developed it is found that where effective self-government can be secured in the communes or towns—those important units of a state—the government of a state composed of such units and a nation composed of such states—its polity, I mean—should not be one of great complexity or difficulty, as you can see. On the contrary, the direction of such co-operative units in the matters of general concern should be quite natural and easy of accomplishment. There are no special rewards for public service, as I have already said, beyond the appreciation and approbation of fellow citizens and the approval of one's own conscience. It is a more grateful and satisfactory reward for conscientious performance of duty than any other form of gain. We are here to be as happy as we can be under existing conditions and to make others happy, and endeavor to practise as well as teach “the luxury of doing good.”’

By this time we had reached the Wellman home, where a good dinner was waiting on a good appetite. At the close of the meal, Mr. Wellman—I should perhaps call him Judge—in response to the request from his father — agreed to explain financial and mercantile matters to me after siesta.

When this season of grateful repose ended, my host took me into his store, which was a very extensive one, reminding me of the department stores of New York, Chicago and Boston, and showed me through its various departments. There were in these a number of clerks, male and female, according to the character of the goods

in them — dry goods, dress goods, millinery and lingere having women clerks, and the other departments men clerks.

It being Saturday afternoon, the store began to fill with customers, and the clerks were kept busy attending them. I noticed that when a bill of goods was rendered, instead of paying for it in money the customer simply indorsed the bill. I remarked about this, and was told that by indorsing it the customer acknowledged receipt of goods charged. This indorsement not only served as a voucher on the part of the storekeeper that he had delivered the goods charged in the bill, but when it was handed into the town treasury the amount was charged against the salary or income of the buyer.

‘I see that you do not require the direct use of money in your business,’ I observed.

‘We do not,’ said Mr. W., ‘as a rule, though we also sell for ready currency when the customer prefers to pay in that way. By this method, however, we find that mistakes in bookkeping are least liable to occur. After recording them on the books, we hand the indorsed bills over to the town treasury on the Monday of each week, where the amounts are credited to us and debited to the purchasers. Thus, as the purchaser has a credit account at the town treasury for his weekly salary or income, the total amount of his purchases during the week is deducted from it, and the balance paid him or placed to his credit if he so desires.’

‘What is he paid in — coin or currency?’ I inquired.

‘Either, or both, as he chooses,’ was the reply.

I now asked what coins and currency were in circulation. He opened a money drawer and showed me a number of coins of aluminum and aluminum bronze. They were all tokens, he explained, not otherwise valuable. The smallest one was of our one cent size, with a '1' on both sides surrounded by a wreath. A somewhat larger coin had the figure '5' on one side and 'v' on the other — both of copper. Other and larger coins with figures indicating their denominations, and different devices, the sizes varying, for 10, 20, 50 and 100 cents, the latter having, in addition to the figures the word 'dollar' on the obverse side, were shown; all these were of aluminum. Coin of higher denominations, representing \$2, \$2.50, \$5, \$10 and \$20, more elaborately and artistically designed and of five different sizes, were shown in bronze alloy of copper and aluminum, of the color of gold; but the light weight of these coins as well as differences in design easily distinguished them from gold coins. All these tokens, I was informed, were exchangeable for gold coin or bullion or silver bullion, or for paper currency or government bonds bearing interest. Gold coins were rarely called for, except by people going abroad. Silver was not coined. It was sold in the market, like copper and other metals. Currency could be procured through the post office, though it was seldom called for or used by the people. No bills of a lower denomination than \$20 were issued. The other denominations were \$25, \$50, \$100, \$500 and \$1000. The bills of the various denominations were of different sizes. The lower ones were printed in single colors, except the figures, which

were in contrasting colors, while the higher were printed in from three to five colors or shades in different combinations, some of the colors running along the face of the bills, others directly across, and others diagonally across from opposite angles. The only backing was the figures showing the denomination, which covered the entire back of the bill.

'Of course,' I said, 'the general government issues all coins and current paper money, but how and where do the banks procure them?'

'There are no banks outside the commune treasuries,' he replied, 'and they procure tokens, currency, gold coin and bullion through the post office department from the national treasury. Government bonds are procured in the same way.'

'What are the tokens and currency procurable with?' I asked.

'They are procurable with government bonds. To be more definite,' explained Mr. W., 'all bonds and every form of currency, except gold, are based upon government property; that is, upon the general land and water transportation systems of the country, which are owned and operated for the people by the United States Government. On acquiring these utilities from the private owners, the government issued bonds, based on them, bearing a low rate of interest—one and a half per cent. per annum. The bonds can be purchased with any of the currency or token coins in circulation, or with gold, and are redeemable in the same. They are obtained through the post office, and are in demand for investment.'

'But,' I said, 'if the general government gave bonds in payment for the transportation systems, how can it now own the bonds?'

'The original bonds of purchase were long since redeemed out of the surplus earnings of those lines, and retired. They paid for themselves in less than fifty years. The bonds now issued are based on this form of national property, and the operation of the transportation systems secures to government enough revenue above operating expenses to pay interest on outstanding bonds and cost of running all the departments of the national government. The general government, therefore, is not only self-supporting but it has in its treasury a vast hoard of gold. In consequence of this flourishing condition of our national affairs we have no federal taxes to pay in the form of internal revenue or as duties on importations from abroad, while our state and county taxes are merely nominal. You can thus see that the ownership of these vast transportation systems is a very safe and permanent asset for government to base its fiscal system upon, and is really in the nature of capital, just, as in our commune, lands, buildings and industrial concerns are.'

'How did the communes first acquire the lands and the industries?' I asked.

'About nine hundred years ago, after the general government had acquired full ownership of all transportation lines, and operated them to the great advantage of the public, the more progressive states of the Union changed their constitutions so that the various communes were empowered to acquire by purchase all the realties and

industries in their territory. This transfer of property was to be made only by a two-thirds vote of the people. At first only a few towns ventured on the new system of co-operation, but their success soon induced others to adopt it; and thus town after town and state after state wheeled into the line of co-operative progress.

‘The holdings thus taken were paid for by debentures bearing a small rate of interest. Fifty years was the time in which these bonds matured, but, as a matter of fact, most of them were redeemed inside of twenty years, the people making sacrifices and vying with each other in efforts to extinguish these debts. When they were paid, the communes at once became independent and prosperous. Of course it took many years of effort and experiment to fully adjust industrial conditions to the new order of things, but this came at length, and we are now enjoying the good results.’

‘Returning to our present inquiry,’ I said, ‘how are you compensated for administering the business done in this store?’

‘After the business of the year has been computed, and a settlement with the town treasurer made, which includes salaries of clerks and assistants—a small rate of profit having been added to the cost of the goods sold—I am allowed a percentage on the sales. This can never exceed \$2000 a year, no matter how large a business is done. The salaries of the clerks, including my son, are paid by the town and charged to the business. I should say the expenses of the business are equal to about 5 per cent. on the first cost of the goods. If any

surplus over expenses remains at the end of the year, it goes into the town treasury. There is usually a small profit in the business, so that the fund derived from this source in time amounts to a snug sum. When this fund reaches a certain sum, it enables the commune to reduce the percentage of profit on goods sold. This and all the other utilities are made to contribute to the general benefit of the people.'

'How do people invest their savings, thrifty people, I mean?' I asked.

'All our people are thrifty,' he said. 'Their savings are deposited in the postal savings banks, where they are readily reached for withdrawal. Some investors purchase government bonds. The same rate of interest—one and a half per cent.—is paid in both cases. Depositors can draw on their books at any post office in any part of the country, or get their bonds cashed and draw interest on the same.'

'How is the depositor identified in other places than his own commune?' I asked.

'By his or her number—not the number of the book only, but the number of the individual, which is also recorded on the book,' he replied.

'I do not understand you,' I said.

'I suppose not,' he commented, 'but I will explain the matter to you. Every person born in this town and in every other town in the Union is numbered according to name and locality, which number is printed indelibly on the under side of both arms, half way between the wrist and elbow, by the X-rays. This marking is made when

the person is ten years of age, and the marks remain for life. This number is stamped or written on the bank book instead of the name.'

He bared his arm and showed me, plainly printed on it, these figures: 5: 147: 23: 1.

'That,' he said is my number. The first figure gives the state number, the second the number of this town, the third the number of the alphabetical letter beginning the surname, and the fourth the first letter of the given name. Thus, 5 means Vermont, 147 Pomfret, 23 the letter W, and 1 the letter A. In the town directory, as you see, the name is given: "Aron Welman, (5: 147: 23: 1)." Occupation, residence, etc., follow. When a depositor desires to draw on his book account he must show his number and sign his name for the amount withdrawn. If money is called for by another than the depositor, he must produce a written order, giving his own number, and being identified in the usual way. This may appear to you a complex method of identification, but it is a really simple one, and prevents mistakes. Besides, if you travel in other countries, your passport will contain your number, and you can thus easily establish your identity. Few of our people, however, go abroad—that is, to the countries of Europe, Africa and Asia—but many travel to different parts of the American continent, where passports are not required.'

'Are the countries south of us confederated?' I asked.

'Yes; Mexico and the Central American States are in one confederation, and the South American States form a fourth continental confederation.'

‘What of world federation?’ I asked.

‘The countries of Europe, Asia, Africa and Australia have federal unions. All are conjoined with the American unions in a world federation, which has been in existence about two hundred years, and the World’s Congress, which meets in January of each year in the City of Rome, the World’s Capital, is composed of representatives of all the federations. It acts on and decides all matters of conflict of interest between the nations and peoples. It is, in fact, a highest court of arbitration, and secures the peace of the world,’ he replied.

‘Are its decisions accepted in all cases?’

‘Yes, invariably,’ he replied.

‘Do your town’s people travel much?’ I asked.

‘In the summer season nearly every one makes visits to New York, Boston and the sea beaches of the Atlantic coast. Railway fares are very reasonable,’ he said.

‘What is the fare to Boston and New York now?’ I asked.

‘To Boston, one dollar; a round trip ticket, \$1.75. The rate to New York is the same,’ he replied.

‘Of course it pays,’ I remarked.

‘Yes—a fair profit to the government. The volume of travel and traffic on the railroads is very great at all seasons of the year, but of course travel is largest in the summer season, the sun’s warmth promoting this as well as all the other activities of life and motion. In winter, when farm work is slack, the farmers travel a good deal, though they can get work in some of the factories if they want it. But many of them go to the big cities, and take

their wives and young children with them for a visit to friends or to see the sights. The cars are nearly always comfortably filled with passengers.'

'Pardon me, Mr. Wellman, for being so inquisitive,' I said, 'but how did you first obtain the position of town storekeeper, and how long a term are you appointed for?'

'The position is an appointive one by the town council, the term of appointment being ten years. To those once appointed the office is practically a life one, for it is realized that an incumbent who is faithful and efficient is the best qualified to retain the position, and he is reappointed from decade to decade until he reaches the age of retirement, and even then he can hold it for another term if he desires. That is the usage. My own time for retiring will come in six months from now, but I have decided to take another term. When I do retire my assistant, who is my eldest son, will probably succeed me, for the reason that he is thoroughly familiar with the business; but he will have to be appointed by the town council. There is no seeking for office by untried men nowadays, as they are certain to meet with disappointment. If my son, in next ten years, should obtain another position, then one of the more experienced clerks would be chosen to fill the place. But while faithful servants are not discarded for new men, the commune is not bound to continue any one in office after his term expires.'

After my interview with Mr. Wellman I left the store, and took a stroll around the village in the neighborhood (there were several such villages in the town), in order

to study the place and the people without a mentor. The residents were moving about actively, going hither and thither, on business or on pleasure bent. They all seemed cheerful, as if in the enjoyment of life. The young were sportive and gleeful, and made the air vocal with their clear, rich voices raised in song, laughter and sprightly conversation. But at the same time they were not boisterous or disagreeably noisy. There was not in all these manifestations of street life a jarring note of disputation or contention. It was indeed an ideal scene of outdoor peaceful and rational neighborly commingling, in which all appeared to act spontaneously. Along the streets were large American elms whose wide spreading branches embowered the roadway.

After a pleasant ramble of about half an hour, I came back to the Wellman home, where I found the patriarch and his wife, my hostess, Mrs. Wellman, her daughter and daughter-in-law, and the loveable young son of the latter, who at once came to where I was seated, climbed onto my knee and asked a number of bewildering questions, one of which, especially, puzzled me greatly to answer; it was as to my age. If I counted the years I had lived as I realized them I would be 78, but if I added a thousand years to that it would seem ridiculous to the older ones present, who appeared to understand my embarrassment, so, amid their good-natured laughter, I compromised by telling him that I was perhaps about the age of his great-grandfather.

The patriarch now remarked that as the morrow would be Sunday he would take me in the forenoon, along with

his wife, to the lecture hall of the town mansion, where he was to deliver a discourse. I asked if I had not taxed him to fatigue during the past three days in taking me around. He smiled at this, and said:

‘Though an old man (I am in my 99th year) I am still hale and hearty. My life has been spent in active educational work principally—of late years in teaching history, ethics and natural philosophy. It is therefore no great task for me now to talk for half an hour or so—a time long enough to speak or be listened to—for my memory is good and words to garb my thoughts in still come at my desire.’

I was surprised to learn that he was so advanced in years, for I had thought him to be not over 75, and said so, though I should have remembered that his son had just told me that he, the son, was of retiring age, which was 65 years, but the circumstance then had escaped my memory, and I asked if people generally were active and retained their faculties to advanced age. He said in reply:

‘Do you not recall the old people of the town farm? They are conspicuous, to be sure, but only so because they are conspicuously located. There are several hundred in the town as old or older than I am, but who live with their families or friends. There are people in this and other towns of our state who are alive and active at the ages of 120 to 125 years. The main reason for this general longevity is, a healthy, long-lived stock or ancestry—a good, sound constitution being the best heritage. With this advantage to start life with, the things

needed to promote longevity are : nourishing food, active occupation in congenial employment, absence of worry and struggle for a living, temperate and virtuous habits, fortitude in trouble, and a cheerful inclination to look on the bright side of life. Under such favorable conditions it is not to be wondered at that people live to 100 years of age, but rather that they do not live to 150 years. Let me add that I am convinced that, under improved conditions — mainly that long-lived ancestry be the basis — an average age of 200 years may yet be the privilege of the human race.'

We soon parted for the night, each seeking his couch in a search for rest and forgetfulness. As for me this repose did not come at once. The events of the day, the new phases of practical philanthropy in the philosophy of life which I had witnessed, the glow of humanity which lighted up an existence that had not the poetry of the hope of an immortality to make it an abiding faith in a life of disappointed ambitions, the strong convictions of intelligent men of sane minds and logical habits of thought and action, their philosophic resignation to the fate they deemed to be inevitable — these and other and perhaps more puzzling thoughts kept sleep at bay for an hour or more. The fiscal system, as explained to me by the younger Wellman, but which I did not clearly comprehend, further excited my brain ; and it was only after a determined effort to shake off these distractions that I succeeded in going to sleep, but not into a dreamless one, for my fancies in shape of grotesque figures and curious happenings chased after me in a tantalizing way.

## CHAPTER VI.

## THE PATRIARCH'S SUNDAY SERMON — HOW THIRTIETH CENTURY HOUSES ARE BUILT.

The morning of my first Sunday in this wonderful town of the future was indeed worthy of its name. The air was balmy, the blue sky unflecked by cloudlets and undimmed by haze, for there was no smoke of combustion anywhere to dull the air. I arose before the sun was visible, made my toilet quickly and joined the family in time to take part by my presence in the usual morning invocation to the Sun-deity.

The breakfast was, if anything, more enjoyable than any previous one, largely, I fancied, from the circumstance that I had begun to feel more in accord with my new environment. The conversation at the table was cheerful, as usual, and the anecdotes crisp and amusing. Wit without a sting and humor without malice were fully and most charmingly illustrated in this family breakfast table talk.

After the meal an hour or two was passed in looking over the Sunday papers, which, in addition to the news of happenings in all parts of the world, contained many articles on subjects of general interest. They had been delivered at the house shortly before we left the table. These papers were really magazines in form and makeup, being in small, two-column pages, folded and stitched, with covers printed in colors. They were finely illustrated. A feature which I liked in them was that they

contained no long or continued stories, no blood-curdling accounts of murders, burglaries, assaults or suicides; no sensational reports of scandalous divorce cases. Noting these and other omissions of the Sunday and daily papers of the twentieth century, I began to wonder if there were any breaches of the law calling for action of the courts in this new era, and asked Judge Wellman about it. He said:

‘In the large cities there are still occurrences of crime, I regret to say, but nothing like what prevailed even a hundred years back. The efforts of the reform elements of society in the past 800 or 900 years have been aimed at elimination of crime by prevention of propagation of criminals. This has been largely accomplished through life imprisonment of confirmed criminals and separation of the sexes. The rule in this respect is so strict that in prisons for women no men are employed or allowed to visit, not even men doctors. Insane people, degenerates, those with homicidal and other dangerous manias, thieves and others similarly afflicted, are confined for life. If any of these unfortunates should have had offspring before commitment, these children are cared for by the public, and carefully watched and trained. Should they develop the hereditary traits, measures are taken to prevent them from perpetuating the affliction.

‘In this way, what may be called undesirable strains or breeds of men have been largely eliminated from our population, and with their disappearance has come a most remarkable decrease of crime, insanity and idiocy, so that these afflictions have now become comparatively rare.

We long ago recognized the wisdom of such precautionary measures to rid society of undesirable and dangerous elements, and our midwives and surgeons are careful to see that no malformed or idiotic infants survive, to be a shame and sorrow to parents and a burden to the commune.'

'What do you do with consumptives and persons who are afflicted with chronic, incurable or contagious diseases?' I asked.

'If we should have contagious cases we would isolate them until recovery or death, and if we cannot cure them we make their lives as bearable and as comfortable as possible. The children of consumptives, if they have any, are carefully looked after. But, as a matter of fact, we have no consumptives or others afflicted with diseases of a contagious nature in this town, and have not had for over a hundred years. Very few suffer from chronic ailments, and they are mostly treated at the general hospital on the town farm. Our system of building up healthy bodies, promoting correct habits of life and good morals has proved its wisdom by the good results achieved by it everywhere,' he replied.

'One more question,' I said, 'and this in regard to another of the peculiarities of your newspapers—can you tell me why there are no advertisements of stores and the goods they have on sale, or about new products and manufactures?'

'I think I can explain it to you,' he said. 'As stores are owned by the people, they are supposed to and do keep all kind of goods called for or in use, as well as new

household, personal and other supplies on the market, and to sell them at uniform prices, so there can be no competition or underselling between them. As fortunes can not be made by storekeepers, who are only agents of the commune and must sell at fixed rates of profit over cost, there is no reason for them to advertise their wares and induce people to buy beyond their wants. Indeed competition in business is antagonistic to the spirit and practice of the co-operative system, which is the leading principle of our modern industrial civilization. In the days when competition ruled even the people who patronized the bargain stores had to pay the cost of advertising as well as the profit of the dealer. When anything in the way of dress goods, household conveniences, novelties, mechanical and other new inventions are received at the stores — we are always on the look-out for new things — they are announced in all the local papers as matters of news, and once every three months we publish a list of all the leading articles on sale in them. There is no loss to the publishers by this method, as they are employed by the commune as we are.'

'Do you have to pay for the metropolitan papers that come to you daily?' I inquired.

'The papers of New York and Boston,' he said, 'are supplied at a nominal price of about one dollar a year, and each town subscribes for one copy for every family in the commune. Each family is held to reimburse the commune for its share of the cost. If any one wants to take a Montreal or other Canadian or American paper he must subscribe and pay for it. For example, I take a

Montreal paper and pay for it in advance. It costs in this way two dollars a year. Our local publications cost us nothing directly.'

We talked of other things until the patriarch and his wife came in, greeted us, and staid a few minutes to chat. Then we, the patriarch, his wife and I, took seats in a carriage, the other members of the family following in a much larger vehicle. The day was growing quite warm. I remarked that it might probably be hot in the lecture hall, but the patriarch said, with a touch of humor, that we should have an abundant supply of cool air 'from above,' via the underground air conduit. We went on leisurely, in company with scores of other vehicles bound in the same direction — the town mansion and its varied attractions.

When we reached the lecture hall we found quite a large audience assembled, the spacious auditorium being comfortably filled with people, young and middle-aged, men and women in about equal numbers. Seating me with his wife near the platform, the venerable man stepped up on to it with the nimbleness of an active man of middle age. His address, while not long, was delivered in a strong yet gentle voice and impressive manner. He said, in substance:

'Neighbors and Friends — This is Sunday, the day of the Sun — that glorious luminary, parent of our earth, our creator and sustainer, that showers down his blessings upon all things animate and inanimate; that is as tender and loving in his benignity as he is terrible in his manifestations of power; that is majestic in all things!

'It is fitting that we observe this first day of the week, which has been dedicated to the parent parent luminary, as a day of rest from labor and of rejoicing in the great boon of conscious existence; a time for thought and reflection, and of opportunity to contemplate our relations to one another and to the universe.

'There are two fundamental facts in nature, as operative in our own life as in that of our earth, our sun, and the millions of suns and worlds that circle in the boundless etherial space of the universe. One of these, a product of the ether, is matter; the other, and perhaps a co-ordinate product, is energy. At least they are always coexistent, conjoined. Matter, from our ephemeral point of view, tends to stability, energy to change. To the action of energy upon or rather in matter, and to the interaction of both, all natural phenomena are due. The long physical history of our earth has been one of continuous change, even before it was detached from the parent nebula, the sun, to whose bosom it will, in all probability return, when in the process of re-creation the parent body will draw in its scattered family, resolve itself into nebula, and again begin the work of producing worlds pregnant with organic life. The changes in the individual history of our earth have been progressive, from what may be termed inorganic or chemical reactions to organic products; that is, to things having definite forms and growth and the reproductive faculty--of brief existence and quick renewal—processes in which the phenomenon we call life was evolved. These organic products, at first simple in structure, became in time

more complex, gradually evolving newer and higher forms of life—processes of re-creation most wonderful and astonishing in themselves—until these advanced efforts of change and differentiation culminated in the thinking and reasoning animal, man : a wonder to himself, and in his nascent intellectual state a creator of gods or deities after his own image, which he naturally endowed with his own attributes to an exaggerated degree.

‘ We do not know how long a period of time in the world’s organic history elapsed before the development of the faculty of speech in our rude ancestors—a faculty which must have been preceded by that of reason in a crude form. We can only guess at the length of that time, but it must have been many ages after evolution from primitive ancestors that man developed speech. From the time of this achievement, however, man has been a progressive creature, advancing in cunning and knowledge, until his mastery over all other animals gave him the dominion of the earth.

‘ This intelligence, this cunning, which enabled man to subdue the lower animals, also, when it was possessed in a superior degree, enabled some individual man to obtain the mastery over those of his own kind who were of less vigor and of lower intelligence and cunning. Hence the one who possessed the faculty of controlling others or of combining with others of a like capacity, and of dominating even these, in time became powerful, and increased his power until it embraced great numbers. These he organized into militant groups, and with them conquered other peoples. In this way nations were formed, the

conquered peoples being absorbed by their conquerors. Thus the ancient nations, from the nature of their formation, inherited the one-man power, as exemplified later in the rule of kings and emperors.

'The people toiled while their rulers schemed; they fought and destroyed one another to settle the quarrels or further the ambitions of their rulers. But all this strife and domination was not an unmixed evil. The mechanic arts were cultivated, architecture, painting, sculpture and education were encouraged, and even husbandry was favored under the rule of tyrants, while freedom of thought developed intelligence in defiance of edict and persecution.

'In some instances, led by more intelligent men, the people revolted against their oppressors and formed co-operative governments or commonwealths, in which the rulers were elected by the people. But these soon fell under the control of patrician classes, the common people having but little real influence in government. The power simply shifted from one man to a number of men; from one great king to several smaller ones. These spasmodic efforts of the people, while they usually failed to realize what was desired, were not without influence in preparing men's minds for more liberal institutions, in which the sovereignty of the people became more clearly defined and recognized. But the experiment of popular sovereignty, as you all know, was only successful finally in its best sense on this American continent, where the common people were not fettered by traditional customs and patrician classes, though for many years the country

afterward struggled industrially under the rule of a class who accumulated great wealth by exploiting the natural resources of the earth, its mineral deposits and its great forests, as their own exclusive property, and therewith controlled and even moulded legislation in the direction of their own individual interests as against those of the masses of the people.

‘One of the most potent influences in human affairs was the phenomenon known as religion, its priests and ministers being important personages in all the early ages of world history — vastly more so than their deserving, for, no matter how earnest and honest they may have been in believing themselves to be direct agents of higher powers or intelligences, practically they claimed and acted under false pretences. All the older religions had their origin in the worship of nature, and grew out of a natural awe at the sight of the mighty forces evidently at work and yet inexplicable. Not comprehending these phenomena, they naturally concluded that the processes involved were either under the control of a mighty power or were self-moved or guided by their own hidden intelligence. Seeing evidences of life in all the powers and objects of nature they proceeded to invest them with the personalities and attributes of beings of great potency and influence. They saw their own passions and conditions reflected in the events of nature. They credited the beings dwelling in the skies, the stars or even in the storms, with feelings, emotions and quarrels like their own. When the destructive powers of nature were at rest they imagined that these beings were at peace among

themselves. But when storms prevailed, these beings were angry and at war. Meanwhile their awe at the manifestations of more than human power, and the great mystery of it all led them to give to these supposed beings the place of gods. To propitiate and please these gods, and avert their anger, burnt offerings and supplications were made. Thus was worship of the elemental gods established. Later these gods were represented by idols innumerable in the more enlightened early nations, while fetish worship, the lowest form of idolatry, prevailed among the most barbarous peoples, the fetich or rude image being worshipped as a god.

‘Second only to the rulers of the people, whom they invested with a “divine right” to rule and oppress, the priests of the early religions were a most powerful cult, and indeed later became, in some instances, temporal as well as spiritual rulers. Their sway, often both cruel and oppressive, was always inimical to progress, for they were satisfied with things as they were and dreaded the idea of change that might unseat them from the chair of power. But the gods of the Assyrians, Egyptians, Jews, Greeks, Romans, Christians and Mohammedans are no longer worshipped in the old, confiding and abiding faith. With their hierarchs, their popes, their priests, and their pompous, gorgeous ceremonies and symbolisms, they have passed away in the processes of change or world development. Today not one of the old god-religions survives. The principal one of the ancient religions which has an influence on modern ethical thought is Buddhism, though the ethical bases of most religions are intimately related.

Divested of most of the parasitic absurdities that became attached to it in the course of time, the predominant tendency of Buddhism towards intellectuality has reconciled it to modern scientific thought. It does not believe in a personal god, but in a great and all-pervading power beyond the idea of a mere personality. The ethics of this religion are simple and easily practised. It has nothing mysterious or superstitious in its makeup. Its golden rule is: Stop doing what is wrong, which is against the reason of things; do whatever is good, which advances the course of reason in this life, and, finally, help those who are still behind and weary of life to realize enlightenment. This is in the fullest accord with the religion of intelligence and humanity which we endeavor to practise today.

'One of the most powerful and influential of the world religions was Christianity, which had its origin in Asia Minor in a socialistic movement of the lower classes of the Jewish people, who chafed under Roman rule, and hailed the man Jesus as their messiah or deliverer. The socialistic teachings of this man, as interpreted by his disciples, struck a responsive chord in the hearts of the downtrodden people of the whole Roman empire, and it soon spread to Greece and the Mediterranean countries of Europe, and beyond. In the beginning, in the Roman empire especially, Christianity had an elevating influence upon the lower elements of the people. It gave them a comforting hope of a life beyond their present wretched existence, where their wrongs would be righted, and their virtues and sacrifices recognized and rewarded. It was

a poor man's religion at first, and hence spread widely and rapidly. It pictured to the common people a compassionate heavenly father, who, if he permitted injustice to be done them would, in his own good time, avenge their wrongs by punishing their persecutors. It seemed never to have occurred to them that a god who had the power to punish injustice ought to have the power to prevent it. But illogical as the religion was in this and other respects, it gave them a higher idea of their own manhood, which was most welcome to them in their lowly condition. This doctrine, while it encouraged fortitude, led logically to a wrong estimation of the real purpose and importance of human life, by making it merely a probationary stage to an after existence. In the enthusiasm of conviction, it allured to the belief that, to gain the full rewards of that life, men and women were justified in practising self-torture and self-abnegation and leading a miserable existence, which, rightly directed would no doubt have been one of enjoyment, at the least. It makes me sad to reflect what misery, what suffering and wretchedness poor humanity has been made to endure by following the teachings of the priests of superstition; while wars incited by them and persecutions to death of myriads of honest men who refused to subscribe to their illogical doctrines or inventions fill me with such loathing and horror that at times I regret ever having read the blood-stained pages of ecclesiastical history, the more so when I further reflect that the men who incited those wars and lighted the brands of persecution believed that they were serving a merciful god.

'The dominance of priestcraft continued for ages, modified, however, in its latest stages by the growing intelligence of the people, which impelled it to relax its hold upon humanity. Then science, the handmaid of truth, came like an angel of mercy to the rescue, illuminated men's minds by showing the absurdity of all mythology, from nature worship; through paganism, down to Christism. Science, in the nineteenth and twentieth centuries of the present era, showed by well proven facts and by clear and irrefutable reasoning, that all phenomena manifested in the earth and in the universe were of natural origin and sequence; that those of the earth were derived from our sun, and by the worlds existing outside our system from other great dispensers of energy in the cosmos. The revolt of the great universities against the dissemination of theological instruction gave the final blow to priestcraft.

'The old beliefs or superstitions — notably the Jewish, which was a race religion — were, however, so rooted in the minds of believers and so warped and controlled their social life and habits, that it required hundreds of years of enlightenment to neutralize them. Men first ceased to believe, but the promise of an existence beyond this life, which common sense and reason showed the utter absurdity of, still gave the loving heart of the Christian woman the fond hope of again seeing the babes and other dear ones taken from her by death — this hope still held women in the faith and delayed the final extinction of the superstition; and it was only after the rationalist elements of society obtained control of the

training and education of the young that satisfactory progress was made towards the emancipation of humanity from the thraldom of this extravagance of religion.

‘This came slowly and through the gradual enlightenment of the people, and it was not until three hundred years ago that the change was finally wrought in these American states and Canada, and men and women became rational beings. Then they took charge of their own spiritual or rather mental affairs, and instead of abandoning the enjoyment of the life in their possession for one beyond their reach, a mythical heaven, they at once established a practical heaven here on earth, where they can enjoy life according to their capacity for such enjoyment, where love and justice rule, where all men and women are equal, where universal brotherhood is not merely a figure of speech but an actual truth, and where people are happiest in doing good and in making others happier. The Christians worshipped in Jesus the ideal man. We aim to make the actual man as near to the ideal one as conduct and character can produce.

‘Let me say, in conclusion, that the industrial development of the world was retarded for ages because the same spirit which dominated in spiritual affairs governed the enterprises which employed the people—selfishness. It gave riches and fame to the few, while the masses toiled and sweated under the burden of unfairly requited labor. In the twentieth century, however, due in a large degree to scientific progress and the growing intelligence of the people, the industrial classes of Europe and North America combined and co-operated until, by persistent action,

they practically emancipated themselves from bondage to the capitalist classes. They accomplished this through political as well as industrial combination, and then, having obtained legislative supremacy, at first placed the minor public utilities under public control and then the major ones. These included all the industries. Then, in the course of progress, the form of public control was changed to public ownership, the interstate and international systems of transportation being acquired by the general government, while local utilities, industries and realties were acquired by the states and municipalities for the people, to be owned and operated in their interest and behalf. In this way there was secured to all the people employment in the various occupations at remunerative rates, which enabled, still enables and will continue to enable the people to pursue and enjoy happiness along lines and in a way that their forefathers of eight or nine hundred years back may have struggled and hoped for but never fully realized.'

Having concluded his discourse, the patriarch bowed acknowledgment of the applause of the audience, and with his wife and I left the hall. When outside he asked if I would like to visit the concert hall, theatre, or any of the other places of amusement. I said I would prefer to take a ride around the town, as I contemplated going back to the city on the morrow. His good wife agreed to accompany us. By this time the cool wind from the White Mountains had tempered the heat of the day and made riding on the excellent roads, amid enchanting scenery, a great enjoyment for the stranger. We chatted

about various matters suggested by the lecture, and the patriarch said:

‘The subject was a broad one, and my discourse was, as you no doubt noted, simply a running commentary on all the matters treated.’

‘You will pardon me,’ I said, ‘for thinking that in the treatment of the subject of religion you were rather severe and even unjust in your comments on the agency of priests and ministers. I have known many good, conscientious and even liberal-minded men in the profession, whose labors for the good of society were most marked and beneficial among peoples needing moral stimulus. It is true that they may have been conservative, as was perhaps natural with men who aimed to do good in the way they were trained to do, and their devotion to what they believed to be a most sacred calling, in which they inculcated charity, truth, righteousness, justice, temperance and virtue, had a most important influence in making people better and thus improving society.’

‘What you say is no doubt true in regard to ministers of the nineteenth and twentieth centuries,’ said the old man, ‘but my retrospect embraced periods in ecclesiastical history when arrogance and intolerance characterized the Christian church and its ministers; when the priests who preached forgiveness were implacable against all doubters; serving a god of love they dealt out hate to their kind; a god of mercy, and they showed no mercy to those under the ban of the church’s displeasure. Do you think I was unjust or too severe with people who tortured to death and massacred fellow beings simply for

difference of opinion? I know it may appear unjust to even seem to condemn a class of good and tolerant men for acts of intolerance of their predecessors. Doubtless they reflected the spirit of the civilization of their age rather than that of "peace on earth and good will to men," which seems have been realized after the demise of ecclesiasticism. I can not therefore modify the views expressed though they may seem unjust to the good men you have known, and who no doubt by their liberal views and teachings contributed in no small measure to the eventual realization of civilization's grandest triumph, the brotherhood of man.'

'You spoke of Buddhism as the only one of the more ancient forms of religion that survives at this time,' I remarked.

'I did not mean or say that it survived as a religion, in its early Indian form, with its doctrine of Nirvana, which, however, if it means that when life is ended we cease to exist, it is not in conflict with our own conception of the end of human life. Buddhism as we know it is a form of moral philosophy rather than of worship — essentially an ethical cult, if such it can be called. The Buddhist conception of the deity is vastly broader than was the most advanced idea of the Christian god, which was the Jehovah of the Jews; a despotic personage, of militant disposition and easily moved to anger. To the Buddhist the deity is above and beyond the idea of personality—is an all-pervading power, has no sex, and compasses and comprehends all that has been, is, and will be. The Buddhists believe that all things in nature

come from the same ultimate source, which is all-powerful, embraces all knowledge and all beneficence. They do not believe in original sin, but acknowledge the existence of ignorance, and insist upon its total removal as the surest means to the regeneration of the human race. In these and other common-sense matters we are in full accord with them.'

'Are there Buddhist churches in this country?' I asked.

'No,' he replied. 'We have no churches for worship. Our schools have supplanted them as teachers of ethics. The principles of that philosophy permeate our daily life and all our institutions. With the superstitious forms and ceremonies which may have crept into Buddhism in its life history we have nothing to do.'

'Are there not sects among Buddhists as there were among Christians?' I queried.

'In one sense, yes,' he replied. 'In many non-essentials men do not all agree, and in that sense there may be sects. There is no rivalry or jealousy among them. They agree to disagree.'

'Have the descendants of Jews and Christians retained any of their old religious rites and ceremonies?' I asked.

'Yes,' he said. 'Some of them practise some of the simplest of the rites in their homes, I believe, showing the truth of the adage that superstition dies hard. These ceremonies are regarded with curiosity rather than with the old time fervor. They prevail mostly among Jewish descendants.'

'The Jews are a tenacious people. They have been subject to persecution everywhere,' I remarked.

'Except in the United States, you might have added, and with perhaps more reason than humanitarians would desire to admit. In the first place they were the most conceited race on earth, believing themselves to be the chosen people of God. This preposterous conceit made them exclusive, deeming themselves superior to all other races. They were further confirmed in their conceit by the fact that the sect of Christians, which originated among them, adopted their Bible and their God. The Jews persecuted the early Christians and incited their Roman masters against them. For this and for their racial conceit and exclusiveness, the Christians, when broader and more humanitarian philosophy gave them the world power, so to speak, in turn persecuted that ultra-conceited people whom they also hated with a most unchristian hatred. But in the last two centuries, when the bonds of racial and religious exclusiveness have been cast off and the descendants of Abraham have mingled their blood with that of the Gentile, there has been a wonderful change, and there is now little or no Jewish racial conceit and exclusiveness,' said the patriarch.

'Has legislation had anything to do in the decadence of the old religions?' I inquired.

'Nothing whatever,' he said. 'The intelligence of the people, which had made them thoughtful, and the moral courage which came with conviction, mainly contributed to the result. It was simply a matter of evolution, as inevitable as it was logical, and is no doubt a prelude to other changes.'

'In your lecture, Mr. Wellman, you said that it was

only after rationalists had assumed control of the education of the young that the world was emancipated from Christian superstition, and that this change came slowly through the gradual enlightenment of the people. Were the people not enlightened before that?

‘They were, in a great measure, but not to the extent of taking upon themselves the responsibility of condemning the creeds which they had ceased to believe and were no longer matters of faith. This sequentially led to the changes which followed. The Bible story of the creation, the birth of Eve, the fall of Adam and the consequences thereof to the human race, one of the most dreaded being death — as if death were not as necessary to progress as birth, and quite as natural — were regarded as fables hundreds of years before the final decadence of Christian theology ; but the churches clung to them, and with their scheme of salvation (saving from what?) made the sacrifice of one human life the key to the redemption of the human race — not from superstition, certainly, which they did so much to perpetuate.’

‘But if Christianity was based on fable,’ I persisted, ‘is it not strange that many thousands of the brightest minds of the ages honestly believed in and advocated it, and even sacrificed their lives for it?’

‘No. Other religions, no more illogical and absurd than Christianity, which existed longer than it did, had their intelligent believers, advocates and even martyrs, for honest and sincere men of all opinions in every age have been willing to and actually have suffered death for their convictions. That proves nothing more than the

sincerity and heroism of the sufferers — not, at least, the truth of the conflicting beliefs for which they were sacrificed. All the old religions had their uses in the evolution of human society, or at least they exerted a potential influence on the affairs of nations, whether for good or evil is a matter of opinion.'

'But,' I said, 'surely a religion that existed as long as Christianity did must have had more than fable to support it.'

'The moral basis of it,' he replied, 'is as old as human civilization, even older, for it must have existed during barbarism in some degree. The fabulous feature was, however, the most fascinating to the imaginative mind of the ignorant masses, who would be more inclined to accept the marvellous than the tamer truth. Take the doctrine of "original sin," for example. According to the Mosaic account, the woman Eve was created in a most impossible manner, to be a companion to her father Adam, his wife, in fact. Indeed he was both her father and her mother. As male and female they were like other animals, endowed with organs of generation, and yet, because they exercised this function, which we know was the leading one in procreative nature, this pair of "immortals" were condemned to death and their posterity after them. The flimsy reason given for this sentence was that, tempted by a serpent, the woman ate and persuaded the man to eat the fruit of "the tree of knowledge," whatever that allegorical edible may have been. Who but people who accepted such an illogical doctrine and were deterred from questioning it by threat of the

dire fate of all unbelievers, would accept such a story?

‘The first human pair, we are told, were created immortals, the very idea of which would be absurd to the merest tyro in scientific inquiry, for the most pervasive principle in nature is what we call the law of change, and the inventor of Genesis must therefore have been ignorant of this fact. It seems incredible that fables like this were taught as doctrines, or that such utter absurdities could find believers and even advocates.

‘Coupled with this was the doctrine of immortality of the soul or spirit of man—a doctrine which originated in the dreams of our rude progenitors, in which memory recalled dead friends, whose forms appeared as if still in the enjoyment of life. Looked at from a rational point of view, the human race is as immortal, if immortality is continuance for an indefinite time, as the earth itself, of which man is an offspring. But immortality of the race and immortality of the individual are two very different propositions. The life that is transmitted through parents is not difficult to comprehend. But the idea of an individual spirit or soul existing after the organism which gave it birth, sustained and developed it had ceased to exist, is simply an illogical, absurd proposition.

‘Can you conceive of a soul or spirit—the mind, in fact—which is the endowment of a human organism, the expression of that organism indeed, taking flight at the dissolution of the body and still exercising certain functions of that body in some place as shadowy as itself, a heaven or a hell, with all the accessories of either place to make it happy or to torture it, “for all eternity?”

'There never was a human intelligence which was not based upon a physical organism built up and maintained by the destruction and absorption of other organisms employed as food. You never heard a human voice that did not come directly or indirectly from the action of the lungs, vocal chords, mouth and tongue of a living human being. How can a soul or spirit hear or see without ears and eyes? feel without a nervous system? walk without legs and feet? think or remember without a brain? In fact, in this world of organic growth and change, can a spirit or soul exist without a physical organism and subject to all the requirements and needs of such a human organism?

'The Christian plan or scheme of salvation, also, would seem to have been unnecessary as well as illogical. The consequence of the "sin" of Adam was said to be death, but death is a natural process in the renewal of life, in the immortality of succession. There needed no resurrection of the dead body to insure this. Therefore the doctrine of "the atonement" through the vicarious death of a Savior was unnecessary, and seems to have been invented to fit the Mosaic story of the creation and "the fall of man" from a high estate to that of common mortality. The latter hypothesis was amply disproven by eminent scientists of the nineteenth century — notably by the investigations of Charles Darwin, the great English naturalist, as shown in his "Origin of Species" and "Descent of Man" — who showed that man, instead of being descended from a godlike Adam and Eve, came down through a series of lower organic forms, and

developed finally from a strain of anthropoids. Thus, by scientific inquiry and common sense, were the foundations of Christian dogmas undermined ; but when this became evident it was also realized that these dogmas were not essential to the true religion of humanity, which had already pervaded the practical life of the churches, and which made the final transition to the humanitarian religion of our time an easy and natural one.'

'In regard to the changes from private to public ownership of the lands, industries and utilities,' I said, 'were those changes attended with much friction, rioting or bloodshed?'

'No,' he replied, 'but there was agitation and strenuous political effort. The successive changes were brought about by peaceful legislation from time to time. A people who would, under a liberal form of popular government, resort to revolution and bloodshed to accomplish their ends would not be well conditioned to settle down to a life of peaceful co-operation such as we now enjoy. No; though there were demagogues who sought to foment class hatred, the good common sense of the people rejected their counsels and the reforms desired were accomplished in a peaceful, equitable way.'

'Are there any wars between nations or peoples now?' I asked.

'No; for the good reason that there is nothing to quarrel about or fight for which cannot be settled by the world congress of the nations. Every nation owns its territory, or rather the people in their corporate or co-operative capacity own it as well as all the industries and

other utilities pertaining to it. They are satisfied with what they have and do not covet the lands and industrial assets of their neighbors. This applies to nations as well as to communes, and being the case there is not anything in this direction to quarrel about. In intercourse between peoples and nations there sometimes may occur misunderstandings or clashing of interests in matters of trade, but where both parties are desirous only of justice being done such troubles can be and usually are easily settled,' he said.

'Has the world's congress the physical power to make its decrees operative?' I asked.

'It has what is much better and more effective, because it is not physical. That is, the moral power, backed by the best opinion and best conscience of mankind. Besides, in this age of general individuality, when every man owns himself, there are no leaders, and there is none who would attempt to or could persuade men to resort to violence when common sense and a desire for simple justice could and should settle any controversy. No, no!' said the patriarch, emphatically, 'man has outgrown his militant moods, and finds more satisfaction in doing right than in upholding wrong, thus avoiding the causes of contentions and strife. It is very simple and very pleasant to do right, and when all men adopt this rule and live up to it they have acquired the best philosophy of life.'

I could but agree with him as to the wisdom of such practices, but it seemed almost too ideal for human nature as I had known it. Yet when I considered the

centuries of commonsense treatment of the young, the careful training and practical moral teaching which I had seen so pleasantly exemplified in the schools, I had to admit to myself that such results were not improbable. Given a normal brain in a healthy body, under favoring conditions of life, I thought, the possibility of producing the approximately perfect man seemed quite reasonable. But I could not quite grasp the thought that men had abandoned all belligerent habits, and asked:

‘Have the nations no navies, armies or militia?’

‘No. They have no use for them. Men now cannot be persuaded or coerced into forming combinations the ultimate purpose of which is the murder and subversion of their fellow creatures. This most revolting system of our early civilization, often the result of commercial competition between nations, has vanished with the advent of the co-operative system. Competition in trade, the mother of corruption and dishonesty the world over, is dead beyond resurrection, and the world rejoices in a new industrial and social birth.’

I was satisfied with the answer, and pursued my inquiries no further. We were in a thinly settled section of the town, that is, a section of small farms, when the patriarch said:

‘By the way, Mr. Wonder, I promised to let you see something of our methods of house-building by showing you a house in course of construction, but did not have an opportunity of doing so when we last went around. We are now coming to one partly built, where you can see our method of construction sufficiently illustrated for

a clear comprehension of it. It is, as you see, a composite structure, being of wood and concrete. I may tell you that hollow concrete blocks are sometimes employed in more expensive buildings, but concrete embracing a wooden frame is now and for many years has been most in vogue. Iron and steel reinforced structures were at one time all the fashion ; they are things of the past, and would be impossible now on account of the scarcity of iron ; but steel would not be chosen today because, even at lower cost, it is not desirable. In the older structures where it was used to strengthen stone and brick work, the electrolytic action of electric ground currents, under the old trolley system, in time impaired and even destroyed their value as masonry supports. On the other hand, the concrete houses with wooden frames have stood for over eight hundred years, and show no signs of decay or weakness, the concrete preserving the wood in a perfect way.'

'But how is the concrete combined with the wood so that when mutual shrinkage occurs after drying, spaces are not left between them ?' I queried.

'Such spaces,' he said, 'are almost entirely avoided by preparation of the wood before use in the house frame. In the framing factory or mill — which I did not have the time to show you — the timbers of house-frames are prepared to exact measure and adjustment. They are then seasoned by a process of sun-drying under glass, after which they are put into a bath of silicate of soda or potash, which completely fills the pores of the wood. The lumber is then ready for the builder's use.'

We now alighted at a partly constructed building. It was being erected on a side hill, around which the road was terraced, and the cellar had been blasted in the outcrop of a ledge. The rock taken out, a talcose slate, was used in large pieces with cement to make the cellar wall, which was about two feet in thickness. The scantling in the wall was first used to contain the plates of the inside wall box, which were nailed on to them, the outer plates being held inside of uprights, plank after plank being added as the wall progressed upwards. The frame pieces rested on their ends on the levelled cellar wall, no sills being used or needed. The remaining stone from the the cellar excavation was used in the walls, having been crushed and combined with cement and sand in the huge rotary mixer, the resulting mass being turned into the wall boxes and tamped solidly in. Door and window frames to fit the walls and properly braced were placed in position in the wall boxes. The floor and roof timbers were assembled with the other parts of the frame, and as their ends were embraced in the concrete they became attached to it. The outside walls were 15 inches in thickness. The upright timbers being 2 by 5 inches, left a solid concrete wall of 10 inches on the outside.

When the walls were run up to the required height and the concrete given time to 'set,' the walls were stripped of the mould boards, furring was nailed on on the inside, metal lathing fastened to this, plastering laid on, and finish of any kind desired applied. The floors had strong 3 by 12 timbers, which supported a concrete flooring of about 3 inches in thickness laid on woven metal

wire. The roof was flat and was also composed of wired concrete, like the floors. It had a pitch of about 12 inches to one of the rear corners. On asking the reason of this I was told that as the rainwater would flow in that direction, it being prevented from flowing off at other parts by a slight ridge, it could be discharged down into an underground cistern. The interior partition walls were of concrete laid on to wire, and at or near the centre was a group of concrete tubes, for ventilating the different rooms. These were carried up through the roof in a sort of chimney stack, I was told, an ingeniously contrived exhaust fan, operated by the air, surmounting the whole. This was combined with a small structure containing a roof outlet reached by a stairway.

When the concrete walls were built, the work of finishing the outside was done. All irregularities of surface were troweled out and a smooth surface secured. Then, after the wall had sufficiently hardened, the surface finish was applied. It was composed of silicates in solution colored to the shade desired. It was put on with a brush, like paint, and when it dried the wall resembled polished stone. It rendered the walls impervious to moisture. The roof was finished with a like compound, and had to be repainted about once in twenty years.

After leaving the new building we circled around to other sections of the town, and I enjoyed the splendid scenery every moment of the time. The schools were not, of course, in session, but in the village settlements the children were in the open air enjoying themselves, the girls exercising with skipping ropes or swings, and

the boys at their little games, or in the groves sporting under the shady trees — delightful sylvan pictures they presented to our view.

‘How happy they all seem,’ said the matron, smiling. ‘They remind me of my youth and the joyous freshness of existence when I was young. It is the happiest season of life, and its scenes and pleasures are among our most precious memories. I do not, however, regret that I am now old, for I have enjoyed every year of my life, but, if the wish were not absurd, I should like once more to taste the rapture of early existence, with its exuberant spirits and almost boundless capacity for enjoyment.’

‘It is worth having lived for, that at our age we can appreciate the enjoyments of these children,’ said the patriarch, ‘and share again, in fancy, their sports, plays and other rapturous frolics. It is a privilege we can all enjoy if we can attune our minds to it.’

‘But I do not hear any church bells,’ I said, as if recalling a memory.

‘No,’ said the patriarch, ‘we have got rid of that relic as well as many others of the old churchgoing days, including steam whistles on railways. They were of the ages of strife and unhappiness, when their noise was in keeping with the discordant life of the people. We do not need or use them in this age, and are, indeed, better without them.’

I spoke of my return to Boston on the morrow.

‘You will be surprised,’ said the patriarch, ‘at the changes which have been wrought in that city in the last ten centuries. That you will know it again I doubt.

The only places unchanged to any extent in old Boston are the parks, common and public garden. After crossing the New Hampshire line you are in the suburbs of that city, which has now a population of ten millions and covers a territory within a radius of thirty miles from the State House. New York City has about thirty millions of people. Boston has subways under most of its streets, its surface ways are used only for light traffic and pleasure travel in road carriages, the subways being for rapid transit along, across and around the city, and for through transportation of heavy freight and express matter. There are no surface trolley roads, the passenger service on the surface — which is carried on only in the outlying sections — being in trackless cars operated by compressed air. Since the earthquake, some six hundred years ago, the tall structures then partly destroyed have been replaced largely by buildings of lower altitude, composed of metal frames and opaque wire glass panels. The metal is steel, mixed with a percentage of aluminum, which enables it to resist oxidation without materially reducing its strength. In this way the ten story successors of the old twenty and thirty story buildings give to the original section of the city a better uniformity.

'The spreading out of the city has given more room for the people and better sanitary conditions. Instead of being crowded into small tenements, the working people have separate cottages to live in, rear up their families, and with enough land attached to each to cultivate flowers, vegetables and fruits; where, in fact, they have homes for life in healthy surroundings. The

larger buildings, the upper stories of which are not used for stores and offices, or for storage of bulky merchandise, are occupied by the families of business men who prefer to live near their places of business. Their homes are very comfortable and healthy, as they occupy only the upper stories, where there is good air and plenty of sunshine. They also cultivate small flower gardens on the roofs. City life is now far different and more tolerable than it was six hundred years ago.'

'Are the people of Boston and other large cities tenants, as they are here?' I asked.

'Yes,' he replied. 'The same system of public ownership prevails there as here. People have a life tenure of their homes and their children after them, if they so desire. I have already explained our system which is the same as theirs.'

'How are the affairs of the city administered?' I asked.

'The city is divided into fifty sections or communes, each of which is self-governing, as we are, and have control of the lands and industries in their sections. Each section, in addition to its local board of officers, elects a commissioner once in ten years. The fifty commissioners constitute a board of government, having charge of the highways, subways, docks, wharves and other matters of general concern. The same methods of operation of the industries prevail in the city communes as with us. The public school system is likewise on the same general plan as ours, only more elaborate and comprehensive, as it includes the universities and other great institutions of learning.'

'I suppose that the employment of electric power is also general there as here,' I said.

'Yes; and they have a source of power there that we can never have. In addition to our sources of power they have the rise and fall of the tides, the amount of power from which is limited only by the extent of the appliances employed to obtain it, for this form of energy is practically unlimited on the sea coasts throughout the world. Large bodies of tide water are allowed to run into basins at the heads of estuaries through sluice-ways in which turbine wheels are placed to produce power from rise and fall during the greater portion of the twenty-four hours. Then there are vast floats built in basins, inclosed on three sides, along the water front, into which the tide water comes, lifting the floats, and when it recedes they go down again. This tide power, proportioned to the area of the float, is obtained through geared machinery on the inclosing sides, and is something surprising in the aggregate. The upward and downward motion of the floats is slow, to be sure, but the multiplying gearing makes it available for all manner of power utility.'

'How is this tide power stored?' I asked.

'In secondary cells when stored chemically from the electric current. But here we are at our journey's end, and I suppose our midday meal is awaiting us, for it is after the noon hour. During siesta we will further discuss this matter.'

We left the carriage and entered the house, where an enticing repast was spread for our enjoyment, to which,

after ablutions, and receiving a hearty welcome from host and hostess, we did ample justice.

During the siesta the patriarch resumed the subject of the storage of tide power. He said :

' I was answering your question in regard to the storage of energy in Boston and other seaboard places. The tide power which is converted into electric energy is distributed to various sections in storage plants for power and household purposes, as well as for lighting. One of the most extensive uses of this power is for operation of factories, and Boston may be said to comprise in its many districts a great number of these establishments. But not alone are the factories of the city operated by electric power derived from the tides, this power is carried inland for more than a hundred miles, and is often employed as auxiliary to local water powers as well as wind power.

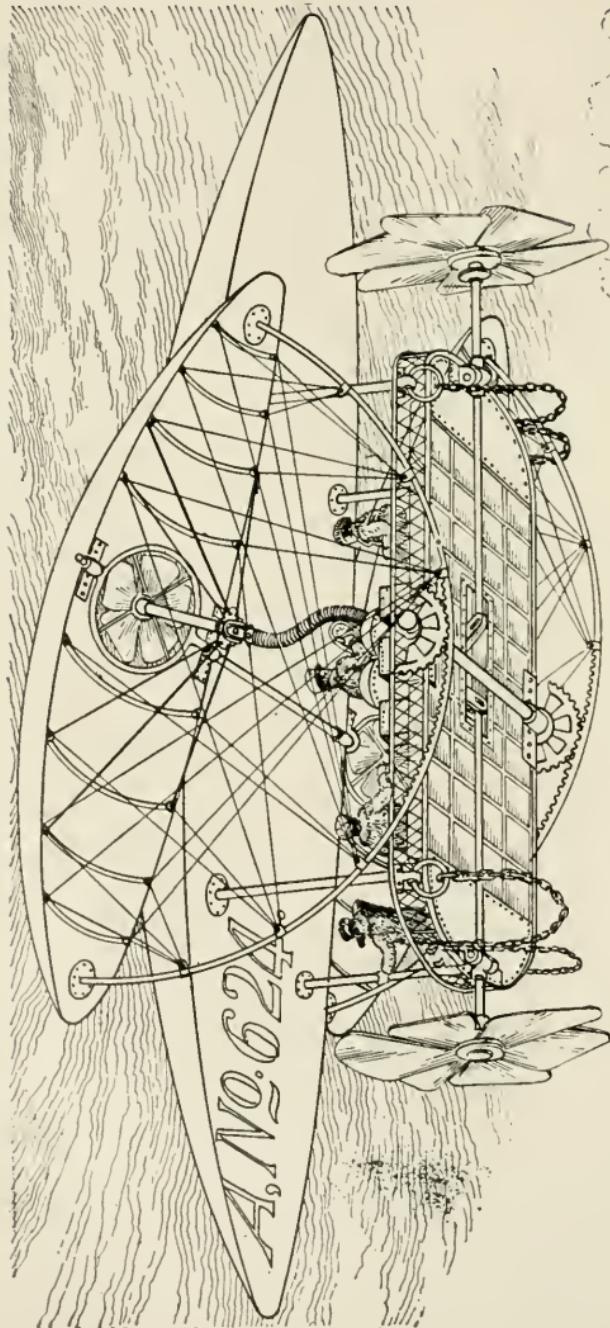
' Another form of tide power storage is in compressed air. In this form vast amounts of power are stored along the sea coasts in this and other countries. In places on the Bay of Fundy, where the rise and fall of the tide is from 30 to 70 feet, enough power is derived from this source to light, heat and give all the power needed for manufacturing and agricultural purposes. In Maine, New Brunswick and Nova Scotia this great source of energy, which is constant, supplies nearly all the power needed, though wind and water powers are used at far inland points where most available. In the British isles, France and Spain, where the coal measures were exhausted centuries ago, the rise and fall of the tides along the

coasts, in rivers and estuaries, furnish power for most purposes, though wind and sun power are also utilized. The same is true of the other countries of continental Europe, and indeed of those of Africa, Asia and other sections of the globe.

'We have, as you can judge, mastered the problem of utilizing the energy of the sun in its various manifestations on the earth, its waters and its atmosphere, and we find that more satisfactory results can be obtained from a right use of these natural powers and the products of the earth than could be derived from coal or mineral oil. It was predicted many centuries ago that when those coal and mineral oil measures were exhausted, the consequences to mankind would be dire indeed; that our colder climes would become uninhabitable in the winter season; would revert to wilderness and become hunting grounds for savages, and that people would be driven to equatorial countries, which would become so overcrowded that the struggle for existence, war and disease, would so decimate them that only a savage remnant would survive. But now, as you see, the sun still gives us in various ways all the power we need for our many uses, all the food we require, and will no doubt continue these beneficences for millions of years to come. Necessity, that fertile mother of invention, has enlightened us in this as in other things; that is to say, it has spurred us on to adopt methods of utilizing the great and generous store of available sun-energy in the various ways that science and experience have shown to be most effective and economical.'



# RECIPROCITY.



AIRSHIP OF THE FUTURE

## CHAPTER VII.

SOCILOGICAL TALK — AIR-SHIP IN VIEW — TELEPHONE  
WONDERS — AIRY FLIGHT AND GREAT PERIL  
— THE AWAKENING.

Our conversation now drifted to various subjects of inquiry on my part. Among other things I desired some information as to the increase of population.

'The world,' said the patriarch, 'is now threatened with the danger of over-population, and the aim of sociologists is to so educate the people that they shall realize that it is the best and truest economy not to encourage the propagation of large families. A family of four children is considered the limit, though some parents have five or six, which is the exception. Many have only two, many others only one. The average increase in this state is about ten per cent. in a decade. The increase, however, would be hardly appreciable were it not that infant mortality is very small, nearly all the normal, healthy children born growing to maturity and even old age. The percentage of mortality, mostly from natural causes, is also small. This is due to the fact that nowadays people live temperate and virtuous lives.'

'Then, too, we realize that there is a limit to the productiveness of the earth, and that there is great danger in over-peopling it. Even as it is, though plenty still abounds, we fully realize the necessity of economy in all things, and that it is better to have a limited population of well fed, well cared for and intelligent people than an

overcrowding that would certainly beget competition and strife, and create a condition of things where the strongest rather than the fittest and best would survive. As with animals, the most fierce and ferocious peoples would become masters of the world. And what then? I do not want to think of what might eventuate from such a condition of affairs.'

'How do sociologists aim to regulate increase of population?' I asked.

'By the wise counsels of competent teachers, and a thorough knowledge of physiology. By these agencies not only is progeny limited but even sex is determined, so that a preponderance in numbers of one sex over the other is avoided. Every man can now obtain a wife and every woman a husband.'

'Are consanguineous marriages of frequent occurrence?' I asked.

'No; so much of race deterioration has been traced to such unions that young people are taught to carefully avoid them,' he replied.

'Is there much illegitimacy of intercourse between the sexes?' I queried.

'It is very rare indeed. The young are taught to curb their passions. As they live regular, temperate lives, and their minds are occupied with pure and rational concerns, they are not liable to the temptation to transgress the proprieties of social life, especially when they realize the consequences of evil conduct to themselves and to their families. The violation of the golden rule in this respect is regarded as particularly flagrant, and, as I have

said before, public opinion in this age of the world is all-potent. Marriage is the only remedy practicable,' said the patriarch.

Just at this moment my little friend, the great-grandson of the patriarch, rushed in, crying out: 'Oh granpa! granpa! the air-ship is coming!'

'We will go out and look at it,' said the patriarch. 'It may have a call to stop in town, and if it has we can go to the town mansion and have a view of it.'

We went out and, directing our vision to that section of the sky at which people were gazing, I had my first view of an air-ship; but to our disappointment it did not come down to earth. It passed over at an altitude of about three thousand feet. It appeared to be quite large, how large I could only guess. It seemed to have a gliding motion, like a buzzard on even wing — soaring, and then descending on a quick decline, then soaring again, alternately. I could discern these manoeuvres quite plainly, as the ship passed about a mile or two from where we were.

'Are these air-ships common?' I asked. 'This is the first one of the kind I have seen.'

'They are not uncommon,' he said, 'and are often employed for purposes of scenic observation or for exciting adventure by young people who court thrilling sensations. They are also used by business men for rapid transit. This method of travel is becoming more popular and is commonly safe, but in some cases voyagers in them have met with mishaps.'

I expressed a strong desire to examine one of these

aerial ships, and was told that I could see one and even ride in it, as it was quite manageable. I inquired how this could be brought about.

'Simply enough,' he replied. 'We can send a message to the station at Montpelier and have one call for you in the morning. Indeed you may go back to Boston in one of the regular liners that plies daily between Montreal and that city, stopping at a few regular stations or where it is called for, on the way. Their carrying capacity is limited to a few persons, with light baggage, but the fare is high — five dollars to Boston.'

'I would willingly pay that price,' I said, 'for the novelty of the trip.'

'Very good,' he said. 'I will have an air-ship telephoned for to call for you in the morning. It passes south about ten o'clock.'

'I wonder why I did not notice the air-ship before,' I said.

'You would not have seen it today,' he said, 'but for the child calling our attention to it. While these fliers pass north and south every day, they do not, however, always pass over this town, as the one did today. We rarely have occasion to use them, preferring surface travel, which is attended with fewer or no accidents.'

'You do not seem to favor aerial transit,' I remarked.

'Birds,' he said, 'float in the air and fishes swim in the seas and waters. I should perhaps more correctly say that birds soar and glide; it is their special function to do these things. But man is held to earth by a force he cannot easily overcome. On its surface he is master,

but when he attempts to leave its surface and goes into competition with birds in traversing the air he enters a contest in which the chances are ten to one against him. The idea of moving through the air above the earth is a very old one—perhaps a natural corollary of man's soaring ambition—so old indeed that it is embalmed in fable. It had a spectacular illustration in balloons inflated with hydrogen and other gases. The gas-filled bag rose through the heavier air as a bubble of sulphuretted hydrogen gas rises from the bottom of a lake to the surface; but the gas balloon, when it did rise, was carried by the air currents in the direction of their movements. After many years of experiment and disaster so-called dirigible air-ships replaced balloons, but even these, the best of them, could not make successful headway against strong adverse air-currents, especially when they were of considerable bulk. The aeroplane idea was the most successful development of the experimenters, but even this had its drawbacks, until the system now in use of a lifting and depressing auxiliary to propelling power and gas-sustaining influence, was adopted, and this combination has made the airship of today about as practical as such unstable craft are likely ever to be. But, after all, it can hardly be rated a commercial success, as its limitations are such as to curtail its general usefulness.'

'How is this air-ship raised and maintained in the air?' I queried.

'The air-ship,' he replied, 'has a central body, somewhat like that of a bird on the upper side, but under this are an open framework and platform, on which latter

are the motors, operating machinery, and spaces for the operator, passengers, baggage, water, and material for the production of gas. The upper part of the body is composed of a double shell of metal, and has a capacity for holding a large amount of gas. Attached to the body on either side are huge wings or aeroplanes, which are also hollow, like the body of the machine, and made to contain a considerable amount of gas. These wings are convex on the upper and concave on the under side. All the framework is composed of metal tubing, which is also filled with gas. As the metal used in all parts of the machine is aluminum, you can see that lightness and strength are secured by the material used. In the body and wings of the machine enough gas can be held to sustain it in the air, with its machinery, supplies, a pilot or engineer, and several passengers. The lifting power for addditional weight is in the wings or aeroplanes. Large fans are let into the wings, which by suction, as it were, draw the air down through them, and thus tend to lift up and sustain the machine. By reversing the fans, an opposite effect is produced, and the ship can in this way be brought down to earth without waste of gas. There are large propelling fans in front and rear, which are also used for steering. While the wing motors will aid the ship to ascend, the propelling fans will send it forward at a moderate speed against even a lively wind, while with a wind the speed can be greatly increased by their use. Another method of operation is by a gliding motion, which is often adopted in the face of strong opposing air currents. In this movement the operation

of the wing fans is suspended, and only the propellers are used. From a high altitude a short, quick descent is made, and then a long upward glide is taken, just as we see a large bird manoeuvre without apparent movement of the wings, though in the air-ship the wings are essential to such movements. It requires skill and a steady nerve to manoeuvre the craft in gliding flight, which calls for prompt changes of the wings at the right times. This part of the mechanism, I should say, is quite complex, but a skillful pilot can operate it successfully. If the mechanical operation of the various parts of the machinery employed in these gliding manoeuvres could only be made to work automatically or at the will of the pilot by the simple pressure of a button, I have heard skilled mechanics say, it would be a great advantage in operating the air-ship. No doubt some inventor will accomplish it by and by,' he said.

We returned to the veranda and resumed our reclining chairs. I said to the patriarch :

' You spoke of sending a telephone message for the air-ship. Did you mean a wireless message ?'

' Yes,' he replied, ' wireless telephony, Aerial telegraphy and wire telephony have long been superseded by it.'

' I have not noticed any wireless apparatus in town,' I said. ' No high masts and other equipments of wireless stations ?'

' Of course not,' he said, ' for the reason that they are not required in the present system. A discovery made about nine hundred years ago, perfected to its present

form since that time, dispenses entirely with masts and other accessories of the original systems. We now telephone from a closed room to anywhere we desire to have communication with.'

'You interest me,' I said, 'how is it done?'

'By control of ether waves, to which the solid walls of houses and other apparent obstructions offer no more impediment than the air itself.'

'Is the speech which is thus transmitted audible and distinct?' I asked.

'It is,' he said; 'and the instrument not only sends and receives but records the message received in a phonograph connected to it, so that if you are not present when the message is received, it can be obtained from the record.'

'Can you talk with any one you may desire to?' I asked.

'Yes, if he is in your number district,' he said.

'What is that?' I queried.

'I will explain,' he said. 'Every instrument is so constructed that, besides its own normal receiving tone, its transmitter can be attuned to the normal receiving tone of any other instrument in the district. All instruments are numbered. Mine is No. 75, and suppose I desire to communicate with No. 150. On a small switchboard on the machine I turn the index finger to 150, and signal. If the call is responded to I make my communication. If not, I speak my message, knowing that it will be recorded and delivered when 150 returns. That a message had been received the instrument would make evident by the

display of a signal on the receiver. By this method messages cannot conflict, and only the instrument intended for communication with is affected.'

'I presume,' I said, 'such an instrument would register microphonic sounds.'

'Yes; they have been made so delicate that they have recorded the beating of the heart when all was silent in the room,' he replied.

'Has it ever been used in investigating mental phenomena?' I asked.

'It has been,' he replied. 'At one time some people, who were enthusiastic over psychical research and occult matters, thought they had discovered in this instrument the means of communicating with the spirits of the dead and other supposed entities. Did they get any results? Oh yes; but they were of a nature so puzzling and contradictory that nothing could be decided from the experiments save that they were the records of the unconscious cerebration of the brains of the experimenters themselves, in the same sense that ghost seeing and other like phenomena of disordered minds are purely subjective. In this connection, I may say that the instrument has established the fact that mental diseases are contagious as well as moral and physical ones, and that they are spread by social and personal contact, mental sympathy and imitation. Hence we now regard people of abnormal minds and tendencies with distrust, and they are usually shunned by the young and susceptible for fear of contagion. Their idiosyncrasies are not encouraged in any way.'

As the patriarch paused, the little fellow who called us to see the air-ship came up holding in his hand a child's story book. I desired to inquire further in regard to the subject last touched upon, but I suspected it was one not altogether agreeable to my interlocutor, and the child's book suggested a train of inquiry to which he would more readily respond, so I changed my questions to matters pertaining to books and literature in general, libraries, etc.

'Literature,' he said, 'was never in a more healthy condition than it is today, judging from the character rather than the number of new works issued by the communes. It is true that we have not nearly as many men and women writers in proportion to our population as there were eight or ten centuries ago, and there are not as many ephemeral publications as then, romances and other products of morbid minds, as the scientific trend of our modern mind is against such productions. The literature of science and philosophy, however, is rich and broad in scope. The writers are many and their labors altogether enlightening. In some of the seemingly trivial walks of scientific investigation the writers often make their observations far more interesting than old-time fairy tales, for they are based upon the facts of real existence.'

'I will mention, as an example, works pertaining to the micro-organic world, such as on lichens, moulds and other minute fungi, and the apparently simple micro-organisms which exist in countless numbers everywhere. These have all been very fully studied, and their habits,

reproductive and otherwise, carefully noted and described. With the aid of powerful enlarging and recording microscopic photographing apparatus the tiny growths and organisms have been illustrated and enlarged to a degree that give them comparatively huge proportions, developing the most surprising details. A section of lichen growth, for example, is magnified into the proportion of a patch of noble forest, with stately trees, of their kind, and a wonderful detail of undergrowth, avenues, vistas and foliage groupings which are truly marvellous.

‘The study of the living organisms inhabiting these miniature forests, the waters and the soil, the bacteria of the ferments, and the varied phenomena of micro-organic life, have been graphically portrayed, showing the many and varied wonders of fecund life. We have learned from the patient labors and researches of our scientists the relations of most of these minute organisms to the larger animal and vegetal ones, and their agency, if any, in the health or disease processes of their life. It is to such studies and the knowledge thus gained that we owe our general immunity from diseases which formerly were so fatal to animal and vegetal life.’

‘Are the scientific investigators and writers held in high estimation by the people?’ I asked.

‘In the highest, as they deserve to be,’ he said. ‘Scientific investigators, inventors, engineers and mathematicians rank, with philosophers and ethical teachers, among the most honored callings, their productions being regarded as evidences of the highest mental achievements.’

‘Have you many writers of fiction, romances?’ I now inquired.

‘We have a few; but their works tend more to the intellectual satisfaction of the reader than to mere emotional ideas or thrilling situations, the existence and defeat of treachery, the work of jealousy or revenge, the cruel and criminal acts of people of unstable character—most of which is the result of a diseased view of social life rather than a reproduction of it. There are no wild beasts or savage Indians nowadays, as there were in the pioneer age of our country, no wars for heroic acts and hair-breadth escapes, and little opportunity for thrilling episodes and situations. We have no murderously inclined, lazy vagabonds ready to rob and kill rich men for their money, and we have none of the latter to operate on. In fact the conditions of the present age would render the production of the old time romances impossible, except to minds diseased by reading them, and if written they would not be published. But this does not exclude the reading of works of fiction of some of the best early writers.’

‘The commune, I presume, prints all works that are issued,’ I said.

‘Yes,’ he replied, ‘and all works intended for publication must be submitted to a board of competent censors before acceptance for publication, and are carefully read and digested. If not up to standard they are rejected, the reasons therefor being given. The rejection, however, is not always final, if authors revise their works to meet objections.’

‘Have you public libraries?’ I asked.

‘We have a main library at the town mansion and branches in the different districts of the town,’ he said. ‘A public library is one of our oldest institutions. Our people are very fond of reading. In the fall and winter seasons the demands on the library for books are very great.’

‘Does it embrace a wide range of reading?’ I asked. ‘Is it rich in classical works, and works of the early poets and prose writers of the world?’

‘It is a library that is very rich in ancient as well as in modern English literature, including translations of great thinkers and writers in the other languages. We have some very old books there, works over a thousand years old; but they are not now generally read. The old spelling is not familiar to our modern readers, but most of the best classics have been reprinted.’

‘Reprinted,’ I repeated. I had forgotten the change in orthography.

‘Yes, reprinted,’ he said. ‘Though there are many of the old prints of these works in existence (I have quite a number of them in my library—family heirlooms), they are not read nowadays except in our phonetic text. I can read them in the original text, though the words have an unfamiliar look to me. With our recognition of words it is much like that of men. We do not have to spell a word to know what it signifies because it is familiar to our vision. It is the same in the recognition of men. We recognize both because of our familiarity with their peculiarities. I have no doubt the phonetic

system, when first introduced, met with opposition for the reason that it changed the familiar appearances of words to unfamiliar ones. Men, naturally, are conservative beings and take slowly to reforms.'

'Is there a universal language?' I asked.

'No; not in the sense that only one language is spoken by peoples of all nations. English, however, from its phonetic spelling and easy pronunciation, as well as for commercial reasons, is taught and spoken to a limited extent, in addition to native language, in all countries outside the English speaking ones. There have been many attempts at constructing a universal language, but without success,' he replied.

'What class of works of old writers are most in quest at the library?' I asked.

'Philosophical, like Spencer's; scientific, like those of Darwin and the German scientists, the leading historians, the poets and dramatists, and historical novelists. Some of the best works of German, French and Italian writers have been translated and printed in series form, like the works of classical English and American authors. We do not always print these works entire, but the portions of them of best merit and interest in this age. They form a splendid collection of the rarest and best thoughts of men of genius in the early and middle ages of human civilization,' he replied.

'What of works of fiction, novels, travels, domestic dramas, etc.?' I asked.

'Preference is given to historical works and novels, but we reprint a few novels illustrating society in the

ages when life was strenuous and competitive. We hold that such works may have a good influence by showing the contrast between the social and industrial conditions and vicissitudes of life in those days and these of our own times, as they would show how much better and happier we now are than the people were ten or twenty centuries ago,' he said.

'Then you do not think the portrayal of evil deeds and of corrupt practices, as found in old works of fiction, are demoralizing to your youth,' I said.

'There is a certain class of old fiction that we do not allow the young to read, but permit the mature to see. But even such reading is carefully selected. Rightly understood, these novels give us pictures of society which, to the philosophic mind, are of great interest as indicating the changes imperceptibly wrought in the manners and customs of peoples in the process of social evolution. Men in the old days were dominated by many influences beyond their control, which made them selfish and often dishonest, and embittered not only their own lives but those of others. Their habits were often intemperate, and as these and other deplorable traits were transmitted to their descendants, by heredity and example, the work of regeneration was almost hopeless while poverty and insane strife for wealth prevailed, and while in the under stratum of society employment was uncertain and labor poorly paid.

'But when industrial independence became assured; when the generations had time and opportunity to gain knowledge, think for themselves, and acquired the habits

of contented industry, then a change for the better set in, and pride and self-respect took the place of reckless conduct and aimless living. In time the absence of struggle for an uncertain livelihood produced a more agreeable temperament and increased kindness of manners. In other words, with the removal of individual competition and the absence of struggle for existence by the equitable adjustment of the rewards of labor, there was no longer any incentive to strife. People became better natured. From hating and envying one another they began to regard one another with favor, and this change of sentiment being found beneficial to all concerned, led first to general friendship, and finally, by a natural process, to universal brotherhood. The generous nature of strong manhood asserted itself, and men became brothers in fact as well as in name. These changes in the characters and conditions of the human family can be clearly and even vividly traced in the fictional tales of the ages as well as in the works of writers of history,' he said.

'What kind of tales, plays, and light literature of the early days are now read?' I asked.

'Chiefly those abounding in wit and humor. The tales of Charles Dickens, stories of Irish, French, German and American life are among the older works of fiction most in demand. Comedies and lively dramas are quite popular with our people. I confess a partiality to lively tales, and can lose myself in the study of characters portrayed by such writers as Dickens, Lever, Dumas, Hugo, and other writers of fiction as well as the German novelists. There is to my mind, however,' pursued the patriarch, 'a

strange pathos in much of the wit and humor of the story writers of the past. These scintillations are like gleams of sunshine breaking through the clouds of misery and gloom surrounding poor humanity, which, while indicating undying cheerfulness, yet reveal an almost hopeless condition of things. Man's travail has been a long and painful one, and I am glad to say that he has neared the end of his trials and tribulations. Much has yet to be achieved, but it is gratifying to know that it will be accomplished under more favorable conditions.'

I said I would like to see one of the reproductions of the early authors. He went to his library and soon came back with a copy of Shelley's poems.

'This, in English poetry, is one of my favorites,' he said. 'You will observe that some of his longer poems — Queen Mab, Revolt of Islam, Prometheus Unbound, and a few minor ones, as the Sensitive Plant, the Cloud, and the Skylark — are contained in this reprint. Allow me to present it to you to keep as a souvenir of your visit and the pleasure it has afforded us to entertain you.'

Thanking him for the gift, I placed the book, which was one of small size, in my pocket.

We talked of many other matters until the evening meal was announced. This passed off, as usual, amid pleasant and sprightly conversation.

Up to bed time the talk was mostly on my contemplated departure on the morrow, and the peculiarity of the means I had selected for returning to Boston. They all considered it a singular notion on my part, and the women especially regarded it with some apprehension.

The patriarch, however, was of opinion that it might afford me an experience which would be a fitting climax to that which I had already had.

'You will,' he said, 'have an opportunity to see how closely, compactly and regularly the many towns of Vermont, New Hampshire and Massachusetts are laid out and occupied. It will seem like a chess board with all the squares utilized, and it should be a matter of gratification to reflect that on these hills, in these valleys, on the farms and in cities and villages, contentment, thrift, prosperity and happiness prevail; that equality and brotherhood go hand in hand, and that life is made pleasant by neighborly interest and affection. Above all, the consciousness that strife, in all its unhappy forms, has no existence among men, will make the contemplation all the more gratifying to you.'

I thanked the patriarch for his good opinion of me, and also took occasion to thank my host and hostess for their entertainment and enlightening information. What I had witnessed and heard, I told them, had given me a gratifying revelation of what good people could accomplish by an intelligent system of co-operation under favoring conditions. It also illustrated to me, I said, how contentment and even happiness could be secured to all by a strict adherence to the fundamental principle of the golden rule. I also said that they had convinced me, by what they had shown and otherwise demonstrated, that their social and industrial systems were much superior to any I had known or read of, and that henceforward I should feel assured that these constituted the wisest and

best solution of the many problems of human civilization.

In response they assured me that they considered the pleasure (they didn't say novelty, but the word occurred to me as more appropriate) of my visit more than compensated them for their hospitality, and as to the information they had imparted, it was indeed a pleasure for them to give it. They all appeared to regret my forthcoming departure, and I must admit that I felt loath to leave such an ideal family circle.

But the evening meal now summoned us to the dining room, following which some desultory conversation took up the time until the hour for retiring came, and I then sought my couch and slept so soundly that I did not realize the flight of time until I awakened to find it was daylight. Making a hasty toilet I at once descended to the sitting room and found the entire family assembled, as usual, on the veranda, the patriarch in their midst, about to pronounce the usual morning invocation. I, of course, joined the group. When this was ended, we entered the dining room and I partook of a well-cooked and appetizing breakfast.

In the course of conversation that followed the meal I asked the patriarch if he made the morning invocation in the open air at all seasons. He said he did not when it rained or was stormy in the summer or during snow storms or cold weather in the winter, but held the service indoors at such times, the clock being regulated that the time of sunrise was indicated by a graphophone attached to it and, muzzein-like, called, not to prayer exactly, but to a service akin to it.

'Is this form of worship of the sun a general custom?' I asked.

'I think I stated to you before,' said the patriarch, 'that it is in no proper sense a form of worship, but an invocation simply. If it resembles a prayer, it has a very tangible being for its objective, not an imaginary one. As to its form, that is a matter of choice rather than convention with all who observe it. It is indeed only a matter of recognition on our part. Many are lax in getting out of bed before sunrise, especially in the long, summer days. The usual form of recognition is: "Giver of all benefits, I salute thee!" Many add to this: "Aid us by thy benign influence to do right and to love our fellow men!" Many others simply say: "Father sun, we salute thee!" There are still others, mostly young people, who make no observance of the custom, though later in life they invariably adopt it.'

We were now apprized of the receipt of a telephone message notifying us that, in response to our request, an air-ship would call at the town mansion station in Pomfret at 10 o'clock Monday. I looked at my watch, which I had been careful to wind every morning since my arrival in town, and found it was half past 9.

'We have just half an hour to get ready and be on the ground,' said the patriarch.

I went up to my room, packed my grip, and came down ready for departure. The entire family had assembled in front of the house, where a road carriage was waiting to carry me to the place where I was to embark on my aerial voyage—not the entire family, by the way, for

my little favorite was absent, at school. After bidding them all a grateful farewell I spoke of the child, regretting that he was not present. He had often admired the charm on my watch chain. This I detached and gave to his mother for him, who seemed greatly pleased at my remembrance of the boy.

Amid adieus and the waving of hands and handkerchiefs we started away and were soon at the rendezvous on the green fronting one of the wings of the town mansion. We had not been on the ground more than five minutes when the patriarch, who had been scanning the northern horizon with a field glass, exclaimed:

‘Here comes the air-ship!’

He then handed the glass to me. When I located the coming craft it seemed not much larger than an eagle, which at that distance it resembled somewhat, except in color, with its prey in its talons; but it grew rapidly in size and nondescript character, until I found more satisfaction in viewing it with the naked eye. I handed the field glass back to the patriarch, with thanks, when he said:

‘Take it with you, Mr. Wonder. It will enable you the better to examine the details of the landscape as you pass over it.’

I thanked him for this further proof of his kindness, and, on the impulse, took out my watch, disengaged the chain, and handed watch and chain to him as a memento of my visit, no doubt a rare souvenir to him. He seemed greatly surprised and pleased, but accepted it without protest, like a true man.

The air-ship was now nearing us rapidly, and seemed to be coming to earth at a decline of about 25 degrees.

Though it had resembled a bird at a distance, a closer view gave it a nondescript appearance. But aside from the details of its platform equipment, it presented the outlines of a bird in body and wings, lacking neck and head. As it neared us its movement seemed more deliberate. Finally coming close, it seemed to hover for a moment, then it settled down in the space between four posts sunk in the ground at the corners of an oblong square. It came to earth slowly and very deliberately, as if depressed against an upward tendency. Four men at the posts at once seized the chains which were dangling from the corners of the platform or deck of the air-ship, fastened them to rings on the posts, and the aerial craft was anchored.

Seen at close range the machine appeared large. The body was oval, shaped something like an egg cut in half longitudinally; that is, like half of an egg, only a true oval very much elongated. It was about 50 feet long by 20 feet in width at its widest part, tapering to the ends, which narrowed to about 6 feet at the rounding. The wings or aeroplanes, each about 30 feet in length by 15 in width, were oval on the outer lines and nearly straight next to the body. Like the body, the upper side was rounding, but unlike it (the body was flat on the under side) the wings were concaved below, but not deeply so, there being ample space in the shell to hold a large supply of gas. In the centre of each wing was a circular opening, about 6 feet in diameter, in which was a fan, with

deep acutely set blades. These fans were held in strong journals below and above, and their shafts below were connected with flexible shafts extending from the operating machinery and connected by universal joints or other coupling.

The wings were supported by a shaft which passed under and across the centre of the body, to which it was attached, the shaft in a flattened form passing around the fan hole, uniting beyond it, and continuing to the outer edge. The wings were also connected by elliptical racks with a shaft running across and below the centre of the platform with which it engaged by segment gears to spur gears. These racks extended from one end of each wing to the other, and served not only as a bracing to the wings, but also the purpose of changing the plane of the wings with reference to that of the body, raising or depressing the ends according as it was desired to soar or to glide. The lower shaft was operated by a hand lever through a suitable gearing connected with gears on the shaft. The upper or wing shaft was held in journals attached centrally to the under part of the body of the air-ship, so that the wings could be moved at pleasure through a limited arc, the movement being limited by chains at either end from the wings to the platform.

The platform itself—an oblong square 25 feet long by 15 feet wide, with rounded ends—was suspended from the body of the air-ship by stout tubing rods about eight feet below it, and was so braced as to be quite rigid in the connection. A rail guard with wire lattice work

surrounded the platform, which contained the power motors and the machinery that operated the wing and propelling and steering fans. The steering of the craft was effected by an ingenious arrangement of the central shaft or rather shafts, for it was divided in the centre but connected by a flexible joint, the deflection in the centre of the shaft in either direction serving to steer as well as propel the craft to either the right or the left, as desired. A reverse motion of the propelling shaft would send the ship in the opposite direction, so that in reality it was a double-ender, would go in one direction as well as the other. The motors, which were run by alcohol, were small, compact and powerful, being about 30 horse-power each. (I learned these details from the pilot after we had started.) Before going I noticed that a placard or sign in large black lettering read, 'A, No. 624,' the letter indicating the class or line to which the craft belonged, and number for the ship.

There was little delay. A ladder was lowered for me, and after bidding the patriarch a fervent good-bye, I climbed up to the platform, grip in hand. I found three other passengers there, two seated in front of and near to the pilot and one at his rear. I was directed to take a seat with the latter for the present. I noted that the passengers as well as the pilot had on heavy overcoats and fur caps, which seemed superfluous as the day was warm, but was reminded that I was going up into a cold region of atmosphere where I would need heavy clothing. The pilot, however, had provided for such a contingency, and gave me a fur coat and cap to put on.

The anchoring chains being cast off and the wing fans set in motion, the ship rose rapidly for a few minutes, when the pilot started the propelling fans, at the same time turning the lever and raising the front ends of the wings, and the ship forged quickly forward on an upward incline. I moved to the rear of the platform to obtain a view of the town I was leaving. The town mansion which we had left was now most conspicuous, and from the altitude that I viewed it — about 2000 feet — presented the true outlines of a Greek cross. I later noted the same form of central grouped buildings in a number of the towns which we passed over. According to the barometer we had soon ascended to something over 6000 feet above sea level, the wings were brought to a horizontal position, and we were, to use a nautical phrase, sailing on an even keel.

The pilot now signified to me that I could go to the forward end of the platform, if I desired, as I had told him I would like to take a look at the country over which we were passing. I noticed when speaking with the pilot that he had a compass before him, and to my question why he had it said that at times the air-ship was enveloped in clouds which made it necessary to steer by the magnetic needle.

The air was now very cold, and I wondered why we had risen to such an altitude, but was told that two of the passengers were Canadian scientists who were on the way to attend a convention of meteorologists, which was to be held on the summit of Mount Washington, to which place the ship was now being directed. In conversation

with the third passenger I discovered that he was an electrical engineer and was bound for Boston, so that we would be companions to the end of the voyage.

But my attention was now drawn to the panorama spread out below me. What first surprised me was the apparent flatness of the landscape, the hills being hardly distinguishable from the valleys, but the lakes shone like mirrors, and the Connecticut and Merrimac rivers were traceable winding their way seaward, their affluents seeming like threads of silver in a pied fabric of coloring, in which villages, towns and cities contrasted with the light and dark green shades of field and forest foliage. It was disappointing in not giving the bold, picturesque views that such a country afforded to surface observers. But I thought of the patriarch's simile of a chessboard and how aptly it described the scene. I was reminded in that connection that I had the field glass he had given me, which I at once made good use of, my companion, the electrical engineer, being provided with a similar aid to vision.

As we neared Mount Washington that person called my attention to the large number of air-ships which were going in our direction. They came from the east, south, west and north, and as we neared our stopping place on the mountain several came quite close to us, so near that we could read their numbers with the naked eye. It was so cold that my fingers were benumbed, and I was glad to put the glass away and keep my hands in my pockets.

In due time we made a landing on the mountain. Some of the air-ships had been before us, as we met them

on their return, after landing their passengers bound for that place and taking on others leaving it. I was told that people came regularly from the cities in the hot weather season to the mountains in air-ships to cool off and have a night or two of sleep under warm bedclothes in the tonic mountain air. The trip usually was made in about forty-five minutes from Boston and an hour and a half from New York. I noticed that all the air-ships we saw were of the same make as the one I was on.

It did not take us long to land our two scientists, and there were five more passengers waiting to be taken on, bound for Boston. I asked the pilot if he were not taking on a heavy load in these five passengers. He said he was, but as the altitude was considerable and he had just reinforced his gas-making tank with an additional supply of calcium carbide he thought there was no danger from overweight on the down grade.

Looking around on the mountain summits I saw a great number of wind engines. I remarked to my companion that I wondered what purpose they served in this remote region. He said in reply:

‘One of the uses of the electric current produced here is to heat and light the hotels and public buildings. Another is to supply current to many inland industries. The wind on these high summits is always active and at times very fierce, giving great power for the production of electric current. The summits of all the mountains and hills are utilized in the same manner for electric power production.

We were now ready to start for Boston. I looked to

the northeast and south along the coast line, which was visible from Eastport to Cape Cod. Innumerable craft were on the sea, moving in all directions. With the aid of the glass I could see many of them quite plainly. Some of them appeared high above water and were of large size, and all appeared to have their decks partly taken up with structures not unlike turrets of battleships. I asked my companion what these were.

‘Wind engines,’ he replied. ‘They are after the style of land wind engines, only they are run horizontally, and are employed to operate the propellers in conjunction with electric power derived from alcohol. Their power is also converted into electricity and stored. From these sources an abundance of energy to carry vessels to their destinations is derived.’

‘But in the event of strong head winds, what then?’ I asked.

‘Vessels will not leave a haven,’ he replied, ‘if wind is ahead and blowing very hard, but at sea a strong head wind is met by tacking at angles in which the wind will aid more than retard. The harder it blows the more current is produced. A side wind or a wind on the aft quarter, or from abaft, if it be strong, will give sufficient electrical energy to propel the ship without the aid of its alcohol engines.’

‘Are there no sailing ships, that is, vessels propelled by sails, I mean?’ I asked.

‘Yes,’ he replied. ‘Ships that make long voyages carry sails, but they are also equipped with wind engines for auxiliary power. All are provided with propelling

machinery to be operated by electricity, but on long voyages sails are always carried, as when the wind is fair they are the cheapest motive power. Coastwise craft have little use for sails.'

I marveled at this as well as other departures from the old established order of things, but now directed my glass toward the city of our destination. As we neared it, I was puzzled to locate the old city. I could trace the Merrimac river through a wilderness of buildings, many of them of very large dimensions—factories, no doubt. Beyond it, to the southward the buildings and the thread-like streets, which intersected one another like strands of a spider's web, seemed continuous and interminable. Finally I located the shaft of Bunker Hill monument.

As I caught sight of the historic shaft, a thought came to me—and the mystery of it is that it had not occurred to me or awakened my consciousness before, but it came like a shock and nearly paralyzed me—what was Boston to me a thousand years after I was or ought to have been dead? Where were my friends, my family, my descendants? Was I not going to a place where I would be as unknown as if I had come from the plains of Tartary or had dropped from the moon?

In this peculiar condition of mind I was oblivious of what was going on about me. Collecting my scattered senses, however, I was about to ask a question of my fellow voyager, when I noticed that he suddenly looked towards the centre of the platform and his face blanched as if in terror.

'What is the matter?' I asked, sharing in his alarm without knowing its cause.

'There is something wrong with the machinery,' he said, and started back to learn what the trouble was and offer expert aid, if needed. I followed him. We found the pilot in great trouble. The propelling shaft had become inoperative through the breaking of a sprocket chain. The pilot had a spare one, had taken up a hatch in the platform over the sprocket, and was endeavoring to get the shaft in working order again, but apparently without success.

'Why not land now?' said one of the passengers.

'Before doing that,' said the pilot, 'I will make one more attempt to get the shaft in gear,' and he again descended and renewed his efforts, but without success.

The passengers now became clamorous to be landed, and one of them threatened to take the pilot's place and bring the ship to earth. His companions supported him, and a lively scene followed. My companion and I strenuously opposed interference with the pilot, but we urged him to land without delay, and he promised to do so at once.

Looking out and around, I saw that during the wrangle the ship had drifted toward the coast, and looking seaward was alarmed to see a huge bank of fog drifting onto the land. It was, in fact, almost under us and was moving in rapidly. We were drifting to sea and the dense fog creeping in under us like a stealthy foe. But there was still a chance for safety left. By gliding down backward we might still land ahead of the fog.

The pilot, who seemed to be completely unnerved, now took hold of the lever that controlled the wings, and to our dismay turned them in the wrong direction, and at the same time reversed the movement of the wing fans. We now began to descend rapidly, but in the wrong direction, and were soon enveloped in the fog.

We could see nothing, but could hear the sound of breakers on a rocky shore. We all realized that death by drowning was now inevitable. It was an awful moment! The noise of the breakers grew louder, and then there was a sudden arrest of motion as the air-ship struck the water, and I received a shock which I felt was to be my last sensation of life. \* \* \* \* \*

A heavy hand was on my shoulder, and a voice in my ear shouted in stentorian accents:

‘Wake up, sir! Your ticket was for West Hartford, and here you are. Be lively, as we are only waiting for you to land to start the train.’ Considerate conductor!

Dazed and speechless, I mechanically seized my grip and got out onto the platform of West Hartford station. Same old platform, same old station, and same old man Perry with the same old coach and horses were there to greet me and carry me over the river through the same old covered bridge to my destination. It was a rude awakening, but as I thought it over I was not sorry that I was back to actual existence and the present, which, even amid the wreck of ideal idols, is good enough for me. But I shall still cherish the fond hope that the human race will yet enjoy industrial prosperity and that peace will prevail to

THE END.









